FOGHORN

THE MONTHLY CP/M PUBLICATION OF **FOG**

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FOG has been formed as a users' group for all persons who use or are interested in portable computers. Membership is available to any interested party whether or not they currently own a computer. The ***FOGHORN*** is published monthly by **FOG** for its members and covers the CP/M operating system. A subscription providing bulk mail delivery to an address in the U.S. is included with membership in **FOG** for $25 per year. For an extra $19, you also can receive the ***FOGHORN***'s sister publication, ***FOGLIGHT***, which is devoted to 16-/32 bit systems. A $1 discount on both the first and second publications applies for payment made by cash, check or money order. See chart below for the additional postage required for other locations. Address all inquiries to **FOG**, P. O. Box 3474, Daly City, CA, 94015-0474. The voice phone is (415) 755-2000.

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Please Help

Please include your membership number with all correspondence and consolidate your order into a single payment. ***Omitting your membership number will needlessly delay shipment of your order.***

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FROM THE FOG

The Annual Meeting and Beyond

by Frank Morton

The 1986 General Election and Annual Meeting were held on March 22 in Daly City. The results from the election have been posted on the FOG Bulletin Boards and will be included in this issue of the ***FOGHORN***. In this discussion I will focus on the meeting itself.

We met in a small, but adequate, hall located near the FOG office. Many of the attendees were able to stop by the office before the meeting, afterwards, or both. There seemed to be a very favorable reaction to the FOG office from those out of town visitors who had not had a chance to see it before.

For various reasons, six of the candidates were not able to attend the meeting. The remaining eight were introduced and had a chance to be heard before the call for the vote. I believe that the candidate coming the farthest distance was Ernest Dryden from Nashville, TN. He is the SYSOP of FOG RBBS #23, and I, for one, enjoyed meeting him finally after only conversing with him electronically for sometime.

I do not know the specific head count, but there seemed to be about 30 people (plus or minus 10) including Officers, Board members, candidates, staff, and other members. Although the group was small, there was a good deal of discussion, and a lot of exchange of good ideas.

Bob Kavinoky, the Corporate Secretary, read portions of a letter received from Ernest Thiersch, a member of AMO #20, CFLOG. The letter contained a list of eight opinions on which he had received general agreement from other members of the AMO. It included the request that the letter be read at the annual meeting and that the eight enclosed recommendations be put to a vote by the membership at the meeting. Corporate Counsel, Jim Schenkel, advised that the applicable Non-Profit Corporation Law under which FOG operates does not allow voting on any issues which were not specifically announced in the Agenda.

Several of the recommendations included in Ernest's letter have already been handled by the Board in past meetings and a response to that effect will be prepared. Comments of the letter which have not yet been covered by the Board will form part of the agenda of the April Board meeting.

Although no specific motions could be voted on at the meeting, many topics were discussed and will be the subject of Board deliberations in the next few Board meetings. Some of the topics discussed (including recommendations from the letter) included the following subjects:

- Endorsements of candidates as a part of a candidate's Ballot statement;
- Any payments for services to members of the Board by FOG;
- Reimbursement of expenses to Staff or Board members;
- Publication of Board meeting dates and Agenda with sufficient lead time to allow member input to Board members;
- Opening Board meetings to any members who wish to attend;
- Publication of Minutes of the Board meetings;
- Publication of a Statement of FOG revenues and expenditures with a Statement of audit from a Certified Public Accountant;
- Including political comments and advertising in the ***FOGHORN*** and ***FOGLIGHT*** (FH/FL).
- Consumer protection for the members vis-a-vis manufacturers whose advertisements in the FH/FL affect members.

Many of these subjects have been addressed or are planned for upcoming Board meetings already, but it was useful to get direct feedback from members present on these subjects.

Corporate Counsel indicated that the law does not restrict a Candidate's Ballot statement in any way, but the Board could restrict content in some manner if it wished to do so. In addition, the Minutes of Board meetings must by law be made available to any member who wishes to inspect them. The Board can determine if the minutes are to be distributed in someway to those members who find it inconvenient to come to the office to inspect the Minutes.

It was explained that the Board and staff do try to offer "consumer protection" as best we can, but in this industry publication of what is happening at the various manufacturers is often obsolete before we can even get it published. In addition, as some mentioned, when a manufacturer seems to be having financial or logistic difficulties, comments by an organization as large as FOG could have a material effect on the success of a company by the mere act of making positive or negative comments about the company.

The policy of restricting political comment and advertising from the FH/FL was generally agreed upon by the Board about a year ago when many complaints were received from members that ***FOGHORN*** pages were too valuable to waste on anything but educational and technical material.

It was not a policy established solely by editor, David Oates in a vacuum. The Minutes may appear a bit cloudy on this issue, but that is the way I remember it. However, times appear to have changed and as a result of this election, members seem more interested in having some political material included in the publications. We are trying to respond to the desires of the membership as we know it.

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There was much discussion about the subject of "open" Board meetings. The consensus of opinion seemed to be that there would be a strong interest in members being able to listen to or witness a Board meeting without being able to actually participate in its proceedings. That would make Board activities visible to members without interfering with Board actions.

This proposal undoubtedly will be considered, as will that of some form of distribution of the Minutes, since it was quite obvious that this general subject was of strong interest to those members present.

On a slightly different subject, I wish it to be known that I will not seek reelection as Chairman/President at the April Board meeting. Demands on my time have increased in the past few months to the point where it is no longer possible for me to continue at the pace I would need to maintain.

This time pressure from my full time job does not appear to be likely to slacken for at least the coming year. Therefore, by the time you read this we will have a new President.

These years I have spent trying to serve you and FOG to the best of my abilities have been interesting and rewarding to me in many ways. I appreciate the trust you have shown me and hope that my efforts have in some way been partially responsible for FOG becoming the organization that we all enjoy so well.

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Annual Meeting; Editorial Policy

by David M. Oates, Editor

I just returned from the 1986 FOG Annual Meeting. After hearing all the controversy, I couldn't pass it up. The purpose of the meeting is the election of five Trustees. As all you good voters know, five incumbents still have another year to serve. Not all the candidates were able to attend (attendance really has little to do with being elected anyway) and those who did, kept their statements short.

Because the published agenda would not allow the "call for the vote" for another 45 minutes, the meeting was opened up for general discussion. The following are some of the topics that I noted. The list is not complete and I have made no attempt to weight any of these ideas; they just represent some of what I heard.

- The Board of Trustees should act as editor of the ***FOGHORN*** and ***FOGLIGHT*** (FH/FL).
- Board meetings should be open to the membership except during discussions on sensitive issues, such as litigation, matters involving FOG employees, etc. (This is not a new idea. The Board has addressed it before and it's not as easy as it sounds.)
- The ***FOGHORN*** has strayed off course and is only serving the more mature users. (I again remind you that the FOG office doesn't write the ***FOGHORN***, the members do.)
- The following should be published in the ***FOGHORN*** and ***FOGLIGHT***:
  - — The Summary of Significant (Board) Actions (that is regularly sent to AMO officers).
  - — FOG "financials." *(We do now!)*
  - — An informal agenda of the upcoming Board meeting. *(This idea always runs into a problem with the publishing delay.)*
  - — Minutes of Board meetings (or if not in the FH/FL, then elsewhere). *(Don't forget that the minutes aren't minutes until they are approved at the next meeting.)*
- The election returns are about equal to last year's, (see this issue for the results and the proxy information.)
- Any individual who receives any compensation from FOG should not be allowed on the Board of Trustees.
- Candidates who disclose any and all compensation from FOG, computer related income, conflicts of interest, etc., may run for a seat on the Board — let the membership decide.
- The Editor should be excluded from being a Trustee.
- The Editor should attend Board meetings as a reporter.

Now remember, these are not my ideas. I tried to paraphrase them as I heard or understood them. Many of these subjects have been worked over by the Board and will probably be worked on again. We just keep at it until we get it right. Anyway, it's your organization, let the Board know what YOU think. Don't be the silent majority. And that leads me to the next subject.

The Editor's Policy Department

OK, I've been following an editorial policy that was designed to avoid using the FH/FL pages for debate between and about individuals. The policy carried over to exclude campaign material which this year (in my opinion) had a tendency toward overreaction, political power moves (on both sides) and innuendos.

The policy was established last year after the Shands vs. Morton, "Fresh Blood" affair (***FOGHORN***, March 1985). I received many letters; good letters.

But two things happened. First, I remembered the problems I had publishing two sides of a dispute (member/reviewer vs. manufacturer) many years ago and second, and most important, the loudest response came from those members who didn't feel that the ***FOGHORN*** was meant to be a forum for personalities and politics.

"I don't want to read that stuff in ***FOGHORN***", and "I read ***FOGHORN*** for computer support and info not for politics", they said. I was even accused of "leaving out the good stuff" in favor of "Fresh Blood". Those members may be the vocal minority or they may be the same individuals that constantly send us praise (vocal majority?).

Well who ever they are, they should have been happy for the last 12 months — they haven't had any reason to speak up.

But, look out! Because they have been pacified, the other side can now be the loudest voice. Oh dear! What am I to do? I can't keep reacting to the current loud voice. If there is a mandate in the answers you put in the Long Range Planning Committee's survey, it hasn't been tallied yet (3/31/86). I can't wait for that. I have to establish a balance.

Therefore, I am relaxing my ban. Rational, objective and constructive letters may find their way onto these pages. I have no stomach for publishing innuendos. As for campaign material, maybe the paid advertisement is the right vehicle. But, I feel that the Board of Trustees should establish some policies regarding allowable language for such ads.

Actually I made this decision a few months ago, but we were already in the middle of the campaign season, and it wouldn't be fair to make any changes until after the election. I have tried to keep the FH/FL fair and neutral throughout the campaign.

Having said that, I'd now like to point out that my policy had nothing to do with excluding information about FOG activities or Board activities. If or when that kind of information is made available, it is published. The only real limit is the 80 page per issue!

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Want to Change Your Subscription?

Each membership in **FOG** entitles the member to a subscription to either the ***FOGHORN*** or the ***FOG+***. You may use the form below to either change your subscription from one to the other or to **add** the second publication to your membership. If you are adding a publication to your membership, you must include a check to cover the prorated subscription. Calculate this by checking your expiration date on this issue and multiplying the number of months remaining by $1.50.

If you are receiving your current publication by First Class Mail, you must also receive the second publication by First Class Mail. Calculate the additional postage charge at one-twelth of the annual charge for each remaining month of your membership.

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Membership number: ____________

Name: ______________________________

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Please write clearly.

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FOG Election Results

by Gale Rhoades

The election for 1986 is over and the results have been counted by Melissa Gray. As you will read elsewhere in this issue, the annual meeting was held on March 22. The call for the vote was at 3:45pm and the results were received at the **FOG** office about 8:30 that night.

Later that night, several of us set up modems and began posting the results on the **FOG** remote systems. The April ***FOGHORN*** and ***FOGLIGHT*** had already gone to the printer and so this is the first opportunity to let the majority of the membership know who will be representing them in the coming year.

Remember that the five Trustees elected this year will each serve two year terms and that five other Trustees were elected to two year terms in 1985. The officers (President, Vice President, Secretary, and Treasurer) will be elected at the April 19 Board meeting and will be announced in the June issues.

The 10 Board members are: Alan Chattaway, Ron Forsythe, Bob Kavinoky, Roderick (Rick) Lane, Phil Moore, Frank Morton, David Oates, George Peace, Roy Robinson, and Jim Switz. If you wish to contact any of these Trustees, please write in care of the **FOG** office. We will forward your mail immediately.

Below is the actual vote count as certified by Melissa Gray.

1. Ron Forsythe	2340
2. Alan T. Chattaway	2282
3. George F. Peace	2205
4. Roy Robinson	2074
5. Roderick Lane	1872
— — — — — — — — —	
6. Kennie L. Smith	1325
7. Benjamin H. Cohen	1172
8. John Gaudio	1077
9. Walt Beaudry	994
10. Mike Faith	921
11. Irving Sacks	695
12. Ernest L. Dryden	548
13. Roger E. Doherty	290
14. K.C. Jones	263
Total votes:	18058

Total of all direct ballots:	1951
Total of all full proxies:	1116
Total of all partial proxies:	618
Total of all invalid returns:	25
Total of all returns:	3710

This is certified as the true results of the election.

Signed: (Melissa E. Gray, Inspector of Elections)

A number of members expressed interest in the proxy designates. The following was prepared by Melissa and was distributed on the **FOG** remote systems and at the annual meeting.

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03/22/86 **For a Membership of 11285**

***** Designated Proxy Summary *****

Proxy Designate	FULL Proxies	PARTIAL Proxies	TOTAL Proxies	% OF Proxies	% OF Members
Walt Beaudry	13	8	21	1.21	0.18
Jack Brown	3	3	6	0.34	0.05
Klan T. Chattaway	56	33	89	5.13	0.78
Benjamin H. Cohen	13	3	16	0.92	0.14
Byron Davies	1	0	1	0.05	0.00
Roger E. Doherty	7	3	10	0.57	0.08
Ernest L. Dryden	3	3	6	0.34	0.05
Mike Faith	11	3	14	0.80	0.12
Ron Forsythe	92	84	176	10.14	1.55
Bobbie Freitas	0	1	1	0.05	0.00
John Gaudio	63	19	82	4.72	0.72
Melissa E. Gray	3	1	4	0.23	0.03
K.C. Jones	6	3	9	0.51	0.07
Bob Kavinoky	2	0	2	0.11	0.01
Roderick Lane	6	9	15	0.86	0.13
Bob Lindholm	1	0	1	0.05	0.00
Philip Moore	0	2	2	0.11	0.01
Frank Morton	257	81	338	19.49	2.99
David M. Oates	4	0	4	0.23	0.03
George F. Peace	24	14	38	2.19	0.33
Herb Renkin	1	0	1	0.05	0.00
Gale Rhoades	485	295	780	44.98	6.91
Cheryl Rhodes	1	0	1	0.05	0.00
Roy Robinson	14	25	39	2.24	0.34
Irving Sacks	3	5	8	0.46	0.07
Bond Shands	2	0	2	0.11	0.01
Kennie L. Smith	34	19	53	3.05	0.46
Troy Soult	1	0	1	0.05	0.00
Lowell Stryker	1	1	2	0.11	0.01
Jim Switz	8	3	11	0.63	0.09
Patricia Watters	1	0	1	0.05	0.00
** **TOTAL** **	1116	618	1734	99.99	15.36

Proxies as a percent of all returns received: 47 per cent

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WCCF News

by Gale Rhoades

The 11th annual West Coast Computer Faire was held April 3rd to 6th this year. Interface Group, having purchased WCCF from Prentice Hall just ten weeks before opening day managed to restore much of the old ("Jim Warren") atmosphere to the Faire and there was more CP/M than we had seen in two or three years.

Many companies were selling the pieces to build your own XT clone. I wonder how any of them will be able to survive? For those members considering buying new equipment, I can only suggest that if you do not have the confidence in your skill to build and service a system, be sure that you select a reputable dealer.

He may charge a bit more but then he might survive to actually provide the promised support. Above all else, talk to the members of your local group — they (and **FOG**) may be the only ones who can help you when trouble strikes.

Three pieces of news may interest many members. The first was an announcement by Tony Bove and Cheryl Rhodes that both ***User's Guide*** and ***Portable Companion*** have been acquired by the publisher of ***Computer Living/NY***. Both magazines stopped publications with issue #17 (***Portable Companion*** was last published in August, 1985 and ***User's Guide*** was last published in November, 1985).

According to Bove and Rhodes, the new publisher intends to continue ***User's Guide*** in some form and will fulfill outstanding ***Portable Companion*** and ***User's Guide*** subscriptions with the new magazine. Those of you who have an outstanding subscription will be receiving a notice explaining the acquisition and what it means to you. Please do not call the old ***User's Guide*** or ***Portable Companion*** offices as the offices have been dismantled.

You should be patient with the new publisher as it will take several weeks to get all the records transferred and sorted out. You will probably not receive the notice until June. Incidentally, Cheryl and Tony will be writing some articles for the new publisher.

The second piece of news was that the Creditor's Committee from the OCC bankruptcy had decided to sell all of the furniture, fixtures, and remaining parts inventory to an auction house. Bidding took place two days after the Faire closed (April 8th) and the high bid was $161,000. from Golden State Auctioneers.

Phil Moore talked to Lloyd Ashman (Vice President of Golden State) and to Jerome Robertson (court-appointed Trustee for the Creditors) after the sale. He says that the auction which will include any remaining Osborne computers (but not the manufacturing rights) will be conducted on April 29th, before most of you even get to see this issue.

Anyone interested in obtaining the rights to manufacture any of the Osborne computers should write to Jerome Robertson, Trustee at 129 Fremont Avenue, Los Altos, CA, 94022. There apparently is a company from Taiwan interested, but as of today (April 8th), no agreement has been reached.

The final news was that Morrow Designs, Inc. (makers of the Morrow MicroDecisions, and other computers) filed last month for Chapter 11 protection from the Federal Bankruptcy court. The April 7th issue of ***InfoWorld*** quotes George Morrow as saying that this is not the end. Sure hope he is right.

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FOG Dues Up Slightly

by Gale Rhoades

The FOG Board has increased the dues by $1 a year to $25 for the first publication and another $1 to $44 if you want to receive both the ***FOGHORN*** and ***FOGLIGHT***. A charge of $1 for every increment of $25 also has been added to all orders, e.g., library disks, back issues, library directories, etc.

These increases have become necessary to cover rising costs in shipping and handling. They are effective immediately.

However, those who elect to pay by cash, check or money order for a membership will receive a $1 discount on each publication and will have the order charge waived.

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A Guide Through the FOG

by Joanne Bransdon

Do you know everything about FOG — what all its services are, and what you have access to once you become a member?

It appears that many don't. They receive their ***FOGHORN*** or ***FOGLIGHT*** and think that's it. We've heard sufficient "I didn't realize this was available . . ." to learn that there are enough of you unaware about all FOG has to offer.

Every new member gets an information leaflet telling them about FOG when he/she receives the membership card. But to make it easy reading, here is a summary of ALL the FOG services.

Firstly, FOG is a professional organization with an office, full time staff and a pretty good complement of equipment. Members are welcome to come visit our office in Daly City. Our street address is 295 89th Street, Suite 304, Daly City, CA. (Please don't use the street address for mail — the post office can't always find us. The postal address is listed in lots of places in each publication.)

Many people come to the FOG office to copy library disks and some come to help out on a volunteer basis. We never refuse assistance. There is always plenty to do.

Membership Dues

A standard FOG membership costs $25 a year and covers 12 issues of either the ***FOGHORN*** or the ***FOGLIGHT***, plus all the other FOG services. For an extra $19 a year, i.e., $44 total, you can receive both the ***FOGHORN*** and ***FOGLIGHT***. This price ONLY covers delivery in the United States of the publications by third class mail. If US members want to upgrade their mailing to first class, an extra $9 ($18 if you are getting both publications) must be added to the standard fee. A $1 discount on both the first and second publications applies for payment made by cash, check or money order.

Anyone who **DOESN'T** live in the US pays **MORE** for their membership only because they have to pay for the increased cost of mailing the publication/s to them. This extra postage cost is clearly explained on the membership form on the inside back page and on page two of this and every issue.

Credit Cards

Payment for any FOG service, including membership can be made by credit card. We accept Visa and MasterCard.

FOG Library

Your dues give you unlimited access to the FOG library. We have more than 300 disks with thousands of public domain programs and more are being added all the time. There are two sections — the CP/M library is organized on 170K double density format and the MS-DOS library is organized on 350K double sided format. Members may order library copies in their own format. The library disks are screened so that each program works and is fully documented.

Members who download from one of the RCP/M systems, copy disks at their local Affiliated Member Organization (supplying their own disks), or bring their disks into the FOG office and copy them themselves, do so at no charge.

Or you can order disks from the FOG office. A printed library directory is available for $5 to help you find the programs you might want. Individual disks are $4 each. Bulk orders of 10 or more disks earn a discount of $1 per disk. To this you must add a shipping and handling fee of $1 per increment of $25. We do need your membership number when your order. If you are paying with cash, check, or money order, you may take a discount equal to the shipping and handling charge.

Affiliated Members Organizations (A.M.O.s) can get a monthly update of the new releases to the FOG library. Only the librarian of an A.M.O. can make arrangements to do this. New additions will be sent to these librarians as soon as copies are made. Contact Bobbie Freitas c/o FOG, P. O. Box 3474, Daly City, CA, 94015-0474 (phone (415) 755-2000) for further details.

Another way to get disks from the library is to "write" for them. If you send a contribution to either the ***FOGHORN*** or the ***FOGLIGHT*** on disk, you can request a library disk be copied onto your disk and returned to you. It's our way of paying you for your effort and for taking the time to send material in on disk.

Technical Support

The FOG office in Daly City is open 10am to 5:30pm Pacific Time. Technical support personnel are available to answer questions, to guide you in finding a program, or to identify the source of operating failure. Other staff members will help you out with other questions, refer you to your nearest local group, and aid you in obtaining copies of the disk library and other materials.

Back Issues/Reprints

Reprints of ALL back issues of both publications are available. ***FOGLIGHT*** back issues are $1.50 each. The following information is currently applicable only to the ***FOGHORN***.

There are two "Best Of" volumes and there will be a new "Best Of" printed each year. "Best Of" Vol 1 is $5 and Vol 2 is $10.

The November issue of each volume includes a partial index to the previous Volume. Also, there are a couple of index listings for the ***FOGHORN*** in the FOG disk library.

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The charges include third class postage. If you live outside the US, add extra funds for AIRMAIL postage.

⇨

Free Member Announcements

Members can place member announcements, e.g., your computer is for sale, in the **MEMBER ANNOUNCEMENTS** section of either publication free of charge. Just send in your copy along with your membership announcement. We will place it in the next available issue, space permitting.

BBS-RCP/M Systems

A network of BBS-RCP/M systems was started to increase access to the disk library. There are now abut 40 systems around the world in the network with more going up every month. Most of the systems are on-line 24 hours. Phone numbers are listed in each issue of both publications. Registration is required but FOG members may register on-line. Our technical support staff will help you out with any queries about registering.

Support Groups and Affiliated Member Organizations (A.M.O.s)

FOG has only one meeting a year — an election. This normally occurs in mid to late March (and, if possible, in conjunction with the West Coast Computer Faire).

Therefore, meetings are organized on a local basis. More than 140 of these local groups have opted to formally join the FOG network, thus increasing the sharing of information, tips, problems, and so on. These local groups are referred to as Affiliated Member Organizations (A.M.O.s). The A.M.O. receives 25 per cent of local member dues to assist with the cost of maintaining a local copy of the FOG Disk Library. They also receive several mailings a year of such things as samples, copies of magazines, advance notices of changes, updates, and new releases.

If you do not currently belong to a local group, you may send a self addressed, stamped envelope (SASE) to the FOG office. Include the geographical area you are interested in and we will send you the contact information for the group(s) nearest you. If you live in or near a major city, the name of that city is sufficient.

However, if you live in a small town or sparsely populated area, we need some pointers to identify the groups near you. Sometimes the nearest group is not in your state or country. We rely on an atlas to assist in referring you to the nearest group. If we cannot locate your post office on the atlas, we may not be able to send you the correct referral.

If there is not a group near you, you might consider starting one. Often all that is needed is one person willing to act as the contact for other computer users. We have put together an information packet to assist members in this. If you are interested, please contact us about receiving the packet.

You can put an announcement in the ***FOGHORN*** and/or the ***FOGLIGHT*** to ask other FOG members in your area to contact you. Since we normally do not release member addresses except to officers of the A.M.O. groups, we will be glad to forward material to FOG members in your area. If you give us a list of zip codes in your area, we will tell you how many members live in that area and you can then send us your stamped mailings and we will post them for you.

If you know a local group that may be interested in joining the FOG network, please send all details (meeting dates and places, officers, and how other local computer owners can join). We will refer FOG members in the area to the group. If there is interest, we will also send the information package on becoming an Affiliated Member Organization.

It is the member's responsibility to designate which A.M.O., if any, will receive the FOG rebate for A.M.O.s of $6 per year. Only one rebate will be paid per member per membership year. If you are not a member of a local group, drop us a note when you do join a group. We will then set the rebate aside for that group. **No rebates will be made until the Affiliated Member Organization is formally approved by the Board of Trustees.**

Application for Affiliated Member Organization status must be made in writing and must be accompanied by a list of the group's officers — names and FOG membership numbers — and a signed copy of the group bylaws. For further details, request an A.M.O. information packet.

It is not necessary that a group be affiliated when the member pays the yearly dues and specifies affiliation for that member to be eligible for the rebate. When a group is approved for affiliation, a check is then processed for outstanding rebates. Subsequent payments will be made on a quarterly basis. Refer all questions about rebates to the FOG office.

If the A.M.O. has a checking account, the treasurer may collect membership dues for renewing or for new members and forward only $18 (plus appropriate postal surcharges) to FOG. This allows the group to have immediate access to the rebate funds. Please note that the two requirements for this change will be strictly enforced. ***No personal checks will be accepted.***

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LETTERS

An Opinion on the Legalities of Selling Bundled Hardware and Software

I was quite disturbed by your legal advice to Peter Tarp (**LETTERS** section, January 1986 ***FOGHORN***, p. 12) concerning his rights to sell bundled hardware and software. While the questions raised do not have clear cut answers, let me offer another opinion:

Q: Is the purchaser the legal owner of the software?

A: Yes. Although software companies purport to "license" rather than sell, i.e., pass full legal title, their attempts to do are, in all likelihood, ineffectual. Only if a purchaser understands and agrees in advance of the purchase that he/she is only getting a license is a court likely to agree. As a matter of law, terms and conditions which are not disclosed and agreed to in advance of a sale are not likely to be considered binding. In my experience it would be a very rare instance for a software seller to mention anything about a license before the sale; rarer still when the software is bundled with a computer. In my opinion, the after the fact submission of a warranty card does not change things. (Much the same can be said about attempts to limit warranties.)

Two more points: I know of no case where this issue has been decided — I suspect that software companies are afraid to litigate this issue for fear of setting a bad precedent. They now succeed in making many people believe what they want. Finally, federal copyright law still applies to the owner of such software, restricting his/her right to make and/or sell unauthorized copies.

Q: Can the computer and the software be sold separately?

A: Yes. Since the software company's license is invalid, its limitation that the software be used with one machine does not apply.

Q: Do I have to notify anybody of the sale?

A: No.

I think it is unfortunate that your response to Mr. Tarp so closely echoed the position of software companies without presenting the other side of the issue. You may well have discouraged him from exercising his legal rights. Please stick to what you do so well — publishing an excellent technical newsletter — and leave the practice of law to those who are qualified.

David Schnapf
Attorney at Law
San Francisco, CA

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Some Misfortune with a Tan Case Osborne 1

I am 15-years-old and I thought some of the readers would like to hear of my misfortune. By some mysterious luck I finally got my Osborne 1 tan case working well enough to get this letter out.

I accidently broke one of the pins on the keyboard port on the mother board of my Osborne 1. I called the Xerox Service Center here in Baton Rouge and they said they had a bad mother board in the back and that they would just unsolder my connector and solder the other one on mine. They said this would just cost one hour of labor ($60).

When they tried to unsolder my connector, they found it could not be done without breaking my board — which they did.

To make a long story short, they ended up replacing my board with a new one without any further charge except for a new power cord necessary to properly ground this newer board.

This happened about a month ago (at the time of writing) and I am just writing now because I have only now got my machine working . . . sort of.

I need a little help. First, how do I stop the arrow keys from putting a **^K** and a **^L** when I push them instead of moving in the direction of the arrows? *[Use SETUP to change the arrow keys to WordStar's configuration. Jack]*

Another problem I have is that I can't boot Drive A and then switch to Drive B. I have to boot B then start over at A. And when I turn on the Osborne too fast, both drives turn on and I get a loud continuous beep.

Any help you can give me would be welcomed. I like the ***FOGHORN*** very much and I find some very useful articles in it.

Leo C. Jessop
Baton Rouge, LA

[Your problem with the drives is not uncommon. I know others, including me, who have or have had the same problem. In my case, it was only solved by replacing my ROM.

I think you have two problems in your paragraph on the drives. I have a sticky Drive B, as you do, and I frequently start work by booting the Drive B with no disk. Of course that gives the "Boot Error" message and I immediately press **RESET** *and then continue with a normal boot, i.e., disk in A and press* **RETURN**. *Sometime ago someone wrote about this and said that the Sieman drives "don't like to be B drives". The problem never occurs on my O-1 with an MPI drive. David]*

And from Jack . . .

[Sounds like a drive problem. Try opening up your machine and unplugging the flat connector on the back of each drive, then plugging it back in again. That will sometimes do the trick. Also you should check the drive speed — OSPD on FOG/UTL.038 will do this, or you can set the drive speed under a single fluorescent light with the strobe marks in the drive flywheel.]

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Media Master and Media Master Plus

This letter concerns Media Master and Media Master Plus from Intersecting Concepts.

The disk emulation programs seem to work fine between my Osborne 1 or Executive and an IBM-XT. However, the ZP/EM CP/M emulation, at least on an IBM-XT, gives results that are less than alluded to in the ads.

For example, the following programs do not work: dBASE II, SuperCalc 1.12, WordStar, Trapper and Invaders.

The following work fine: Sorcim's SpellGuard and Adventure.

My guess is that plain vanilla programs will work. But don't be fooled into thinking you won't have to get new software when you go MS-DOS.

Larry Provost
Croton-on-Hudson, NY

From Intersecting Concepts

I'd like to thank the staff at FOG for giving us the opportunity to share our experiences with ZP/EM and ACCEL, and hopefully provide information that will help both Mr. Provost and other FOG members who are using these products.

First I would like to discuss our experience with three of the programs that Mr. Provost claims will not run under ZP/EM or ACCEL.

dBASE II

We have successfully run dBASE II versions 2.3A, 2.41, and 2.43 under both programs. dBASE II version 2.3B will not run with the current version of ZP/EM. The most common problems in trying to run dBASE II are not copying over all of the overlay files, or accidentally renaming the overlay file DBASEOVR.COM to DBASEOVR.CPM. In situations where overlay files are present, only the root file (DBASE.COM in this case) should have it's extension renamed.

WordStar

We have also run WordStar version 3.3, and know that other people are using various versions of the program. We are not aware of any unpatched version of WordStar that will not run under ACCEL or ZP/EM. The most common hang-up in trying to get this application to run is not copying over the overlay files, or trying to use a version that has been patched for directly addressing the video memory or printer ports.

SuperCalc

We do agree that SuperCalc version 1.12 will not run under either of the programs, for a reason which will be discussed in later paragraphs. One of our users has reported that SuperCalc version 1.05 will work with ZP/EM and ACCEL. We also know that SuperCalc II will not work with the present versions.

How do you know if a program will work with our products? The only way to tell with 100 percent certainty is to try the program in question. However, there are some guidelines to follow which will help you identify those programs which will not run before performing the "acid" test.

There usually are limitations in a system that tries to imitate another. For ACCEL and ZP/EM, three types of programs will not run properly.

Programs with Z80 Opcodes

The first type of program that will not run is one which contains Z80 opcodes instead of 8080. Those of you who started computing prior to 1975 will recall that the first CP/M-80 computer systems used the 8080 processor as the Central processing Unit (CPU), while later designs (like the Osborne and Kaypro computers) used the Z80 processor.

The Z80 processor is 100 percent compatible with the 8080 processor, and contains about another 70 instructions which are not in the 8080 processor. This allows 8080 programs to run on either processor, but Z80 programs will not run on 8080 systems.

Faced with the dilemma of obtaining the largest marketplace for their CP/M products, most software publishers opt to use only 8080 code in their software, even though the Z80 processor has become the standard. Notable exceptions are dBASE II version 2.3B, TURBO Pascal, and SuperCalc 1.12 and up.

If you don't know if your CP/M program contains Z80 code, call the publisher and ask if the program will run on a Zenith Z-100 under CP/M-85. If it will, then it does not contain Z80 code, because the Z-100 does not have a Z80 processor.

Programs Which Bypass the Operating System

The second type of program that will give you trouble is one which bypasses the operating system and uses the CP/M computer's hardware directly. Examples of these programs are Media Master, Presto, Rembrandt, high speed video patched versions of WordStar, and Modem7.

Programs Which Use BIOS Disk Calls

Finally, some disk utilities (like NSWEEP and DU) use CP/M primitive disk BIOS calls to directly read and write sectors. These are not supported in ZP/EM or ACCEL. In most cases, the MS-DOS counterparts of these utilities have already been distributed in the public domain.

Conclusion

I hope that the above information provides some insight into the capabilities of ZP/EM and ACCEL. We do not claim that the products will run 100 percent of your CP/M software, but they will run a fair amount of the software popular among CP/M users at a reasonable price.

With Media Master Plus, you get ZP/EM for $20 over the cost of Media Master alone. For most people, the program pays for itself when it runs one application from their CP/M library.

Mark Graybill — President
Intersecting Concepts, Inc.

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Congrats on the Survey and Thanks to John Gaudio's Comments on FOG Supporting MS-DOS

Have several things on my mind, and since that's a large load for a small truck, thought I would drop you a note to lighten it!

Congratulations to Ron Forsythe and his long range planning committee. The comprehensive survey they have sent out to all members with the January ***FOGHORN*** should provide excellent input and guidance to the Trustees for sometime to come. In the alternative, if the response is poor it should serve as a vote of confidence to the Trustees to continue to speak and act for the membership as they have. I hope for a large response, to help make the Trustees' work a little easier and perhaps more representative. Past experience with member surveys causes me to fear a small response. But in any event, you have given it your best effort.

I would also like to respond to John Gaudio's thoughtful comments (January 1986 ***FOGHORN***, page 5, *Misconceptions*) about an article I wrote which appeared in our Quad City Osborne Group newsletter ***Q BITS*** in the November 1985, issue.

I must confess to having a little "knee-jerkism" on the subject of whether FOG should support operating systems other than CP/M. And John makes a point that my knee-jerk reaction caused me to overlook completely. Specifically, that "FOG's (purpose) is neither to promote membership growth nor to maintain exclusive support for CP/M-80. These never have been, and I hope never will be basic to the purpose of FOG." Well and fairly put!

I guess my main concern was the one expressed in the not quoted part of my article, that a shift into support for other (additional) systems could or would lead to a rapid demise for CP/M support as had happened to the Connecticut CP/M User's Group, CPMUG.

John speaks to this concern by saying "The largest concern appears to be the fear that FOG's support for CP/M will disappear. This will not happen." Hopefully not, but in a democratic one person, one vote environment it COULD happen just as soon as the majority so decided.

Please understand, this is not an exercise in trying to adapt paranoia to everyday situations! I think the FOG board has done a superb job, and in the past John, as well as all of the Trustees, has made many significant contributions to FOG and ***FOGHORN***, and I have no doubt in either his sincerity in making such a statement nor in the zeal with which he would attempt to see it continued.

It occurs to me that the most likely resolution for the concerns of all, still allowing for the growth and development of broadened support, might be in the implementation of something like the following:

1. Treat the money advanced to start ***FOGLIGHT*** as a loan to start a "subset organization" for the support of PC-DOS and MS-DOS, to be repaid to the FOG treasury.

2. Treat the present, or newly formed Board of Trustees as an "overseer" type of board (hey, how about calling them the Mother Board!) with separate Boards of Trustees for each special group or interest supported, with these separate Boards being required to generate sufficient funds to pay their direct costs, plus their pro rata share of FOG general expenses (office, directors travel costs, computer shows, etc.) within some predetermined reasonable period of time, or they will be disbanded.

This would seem to provide an umbrella under which to support (m)any other interests. I would have no objection to seeing some of the funds that have been accumulated primarily from CP/M users lent to start-up groups, be they PC-DOS, dBASE II SIGs (Special Interest Groups), or what-have-you. It would provide a framework of support for future growth without dilution of existing funds and perceived or real support. At the same time it would open the possibility for any special interest or system to develop a forum.

The point, I guess, is that I feel that as stand-alone units each one will have the continuing opportunity to justify it's existence (in the case of the ***FOGHORN*** and CP/M to continue to justify it's existence) based on support for that special interest. Obviously, reasonable judgement and restraint would have to be exercised as to how much funding to provide, at what point to "pull the plug", how many loans to have outstanding at any one time, and so forth, but I have no doubt of the Mother Board's ability to work these problems out.

Within this type of structure may lie the seeds for making the FOG the future AAA of computing! If such became reality, the mind boggles to think of the value to computerists of the vendor and manufacturer liaison not to mention the lobbying muscle that could well be needed with various governmental bodies.

I hope this may offer some ideas for the direction to take in the future. Thanks to all the Board members, officers and staff for all you have all done and a special thanks to John Gaudio for his observations which I think have given me a little more objectivity in the matter.

Robert H. Lay
Davenport, IA

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Kudos to FOG and *FOGHORN*

I would like to express my complete satisfaction with FOG and the ***FOGHORN***. Of all the publications and organizations that I have subscribed to or been a member of, this one more directly assisted me in doing what I wanted to do.

I do have a fear that if we try to be all things to all people we will lose the rare ability to directly address out problems.

I do not think that size will be a problem, rather that we will not be able to focus our attention on smaller matters. Collections of small things make large ones. A boulder and a pile of gravel may weigh the same, but you don't have to move the whole pile of gravel to make some progress.

Thank you again for all your past help.

Donald R. Helman
Charlotte, NC

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A Fan for the Osborne and Some Requests

I bought the Osborne fan that replaces the handle rather than the more expensive and obtrusive OSCOOL unit.

As delivered I got an extra hour out of Ossy before BDOS errors. This is because the fan blew air from the power supply toward the drives. (OK on the Exec which has the power supply in front.)

I reversed the fan (mechanically turned it around in the handle) to suck cool air in through the drives then over the power supply and out. So far, unlimited time to BDOS error.

Note: You need to buy and cut to fit some filter material for the front of the bezel (cover Ozzie's face) if you are nervous about unfiltered air on your disks or electronics.

The Olympic Compact RO printer is an excellent daisy wheel unit for $400 retail at the computer store. It is slow but quieter than a Selectric II with a good typist (which I am not). Single strike and multi strike ribbons are available from Olympia dealers and Sears and several office supply houses. So far the only source of nylon ribbons I have found is Olympia Distributor in lots of 12. I haven't bought a nylon yet.

I would like to find a sideways daisy wheel for the unit so I can use the Pascal sideways routine described in the December 1985 ***FOGHORN*** (p. 47). However for $400, and 10, 12, and 15 pitch, true super and subscripts and letter quality, I am not complaining about the Olympic.

I realize the ADA language is huge and would be very slow on a Z80 but I would like access to learning it and generating some code for work at home.

I also would like to see articles on how to easily get graphs on the Ozzy from equations and be able to dynamically change the axis limits, run the equation and be able to study a portion of the curve. (Note: As an example of what I am looking for, the Hewlett Packard language HPL running on the HP 9836 does this very nicely.)

J. Steve McBride
El Paso, TX

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What About a Creativity Corner?

Do you receive many inquiries/requests for a **Creativity Corner** in the ***FOGHORN***? This might provide an opportunity to both educate and feature "neat" uses of the machine.

For example, I have seen Radio Shack Model III's play music through the cassette output port. The technique seems to me as though it could be simulated through the serial output ports on Osbornes (for example).

A small amplifier IC and little speaker (from a transistor radio) could (should?) be able to achieve the same results (if driven by the right machine language software).

If indeed this is possible, the next step would be a speech synthesizer!

I believe articles of this nature would really stir up some excitement.

Kevin Iachini
Verona, PA

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How to Confuse the Vixen Regarding Disks

Osborne 1 and Vixen users may like to know of a silly thing that I found out the hard way.

The situation is: you format a disk on the Vixen (DSDD), and then change your mind and reformat it for Osborne 1 (SSDD). Then, when someone is using your Osborne 1, you decide to use the same disk in Drive 1 of your Vixen to do some editing, but Vixen says that there are **no** files on your DSDD disk (which is really a SSDD disk).

Media Master says "No", it's not an Osborne 1 disk, it's a DSDD disk, and that there is nothing on it.

In other words, your files are totally inaccessible to the Vixen.

I suspect this will happen to any disks which were once formatted DSDD on another system, and then reformatted SSDD.

Perhaps someone, somewhere can come up with two fixes (to Vixen CP/M and to Media Master)?

Michael Davison
Auckland, New Zealand

[On the Osborne 'FIX-IT' disk for the Vixen, and on all later Vixens, is a program called FIX.COM. It allows you to eliminate the extra information on the other side of your single-sided disk so it will read correctly. Jack]

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An Overseas Member Talks About the FOG General Election

"PLEASE BE SURE TO VOTE!"

This is what we read every year at election time. That of course is as it should be — voting is the only way by which the membership at large can have any influence on the way FOG is evolving. And before I continue, please let me say that in my opinion FOG has done a superb job.

So, we are asked to vote. But voting requires at least some knowledge of the persons standing for election.

For most of us, with the exception of the "hard core" of FOG members to be found in or near Daly City, most people on the list are perfect strangers — at least to us overseas. That is why they submit election statements from which we then have to decide who to vote for.

That is fine as far as I am concerned, and it is the only way, of course. We have to decide on face value alone, and the real burden is having to face the uncertainty of whether, by voting for a specific candidate, we are in fact condoning the abolition of FOG as we know it or not.

From some of the election statements I can infer that there is more to the FOG Board than meets the eye. I believe ill-advised board actions should be made public at the earliest convenience together with any well-advised actions. Some attempts of this nature have been taken, and that I can greet with joy.

But I am sure we would all welcome the change to hear about Board failures as well (if any), and learn from them. To err is human, to forgive divine, and we FOG members should certainly be forgiving for any bad actions because of the overwhelmingly positive results we have all enjoyed for years.

This brings me back to the election. I am certain we all wish to continue voting for the best of FOG as a user group. But as we have to accept the candidates' statements at their face value, through not knowing enough of the Board's actions, decisions and failures, we are very much aware that we might be making a serious mistake in voting for one or the other of the candidates. If we knew who has really said and done what, we might be able to vote better.

How this might be achieved, I do not know. Perhaps it might be possible to publicize the Board's minutes together with any objections there might be from individual Board members. I am sure this could be done as a separate publication. Let's face it, if we can afford ***FOGLIGHT*** (which is a very good idea), we should be able to afford this, too. *[See the* **FROM THE FOG** *section, this issue, for information on this subject.]*

There is another side to the coin. I believe we overseas members feel somehow lost in voting and other matters, too. I can well understand that FOG activities be centered in the US, but I would like to know how many FOG members there are in fact in different countries. I know there are at least two in Finland (myself included), and probably many more. But we here in Europe have our own national character sets, slightly different from USASCII, and there are some other differences as well. They are minor I admit, but they are there.

Perhaps it might be possible to publish in some issue of the ***FOGHORN*** the number of FOG members in each country without in anyway impairing the individual member's right to remain apart from any unwanted activity. The simple figures would be enough. And I also urge other overseas members to vote and to write about their own national computer problems and ideas.

I firmly believe it is time to make FOG more international, and though it might be impossible for any overseas members to stand for election to the FOG Board, I believe we should let the Board know more about our problems and urge it to take overseas members more fully into account.

There are no real complaints as far as I'm concerned, but let's show them that we Europeans, Asians, Africans, Australians and others, are alive and kicking and wish to participate in making FOG even better, bigger and more international.

Veikko Rekunen
Finland

* * *

Setting the Default Right Margin Beyond 76 in WordStar

You may remember me asking about this last summer. I finally got the answer from a MicroPro salesman in London.

"The inability to set the default right margin beyond (screen width — 4) is a design feature".

I think this was his way of describing a boob that isn't going to be corrected.

David Ibbetson
London

* * *

Comments on the December Issue

Here are two comments about the December 1985 issue of the ***FOGHORN***.

About Dick Ezzard's "mass destruction" article (page 13), **permanent** place markers can be set with WordStar's "ignore" dot command. Where # represents a numeral, for example, either **.IG#** or ..# (one less keystroke) can be used for this purpose. (An undocumented **.CO** for **CO**mment also seems to work.)

Such markers need not be deleted before printing, because dot commands are ignored by the printer at factory default settings. Yet such markers are permanent and need not be "reinstalled" with **^K#**. Note that **^R** recalls/repeats the answer to a find prompt from either **^QF** (find) or **^QA** (find and replace). In searching for several such permanent place markers, therefore, only the # needs to be changed when **^R** recalls the previous answer.

I am always amazed by suggestions that SETUP be used to program function keys for commands that require the same number of keystrokes. What is gained by sending **^1** instead of **^G**, for example, when each requires two keystrokes? In WordStar, isn't it easier to remember that **^G** deletes above the cursor rather than that **^1** sends **^G** that then deletes above the cursor? Aren't there better uses for function keys, particularly when SETUP has maximums for the number of characters that can be defined for them?

James M. Kusko
Woodbridge, NJ

* * *

Some Comments on Review of Footnote Programs

wsNOTE

This is in response to Keith Conover's review of footnote programs which was in the February 1986 ***FOGHORN***.

His review of wsNOTE is very fair. I would like to offer two small corrections: first, the program does handle punctuation correctly; it will NOT misplace commas ("[1], [2], [3]"), as he suggests. Second, it is available in most common CP/M formats, not just Osborne, and the MS-DOS version is coming soon.

Having once described the format options of FTNOTE14, it would have been worth mentioning that wsNOTE offers many more options, including complete freedom in format and positioning of note numbers; you no longer need to do extra work to get MLA style, for example, just type in the ## wherever you want the numbers to go.

I fail to understand the complaint that "there is no easy way to merge footnotes back into the initial file if you have extracted them to an endnote file". wsNOTE no longer has an extraction process at all; the notes remain as they were typed in the original file at all times, so they never need to be "merged back".

Mr. Conover should have mentioned that he was using version 1.0e of wsNOTE. The more recent version 1.1 has two added features. First, it will accept notes typed in a separate file, if the user prefers that format to {blocks} within the text (or already has such files typed in). Second, it has a numbering option, which can simply number entries in a list, for example, a bibliography.

Finally, I must explain that Apteryx Software is no longer selling wsNOTE by direct mail order (except to previously registered users of FTNOTE). The program can be ordered for $35 in a variety of common disk formats, from: PaceTek, 1405 Brook Court, Ellensburg, WA 98926.

Eric Meyer
Apteryx Software

Footnote

The February 1986 issue of ***FOGHORN*** contains Keith Conover's review of three footnoting programs, including version 2.2 of Pro/Tem's Footnote, which was distributed as part of the original Osborne WordPac.

Although we have upgraded the program significantly over the years, it is only recently that Osborne gave us permission to make the improved version available in Osborne format.

The two most significant improvements are:

1.) The user can choose either to keep the entire text of a lengthy footnote on the same page as the footnote reference in the text or to have the footnote begin on one page and continue over to the next.

2.) The current version automatically tracks cross references; e.g., if you have a reference such as "see footnote 78", and footnotes are added and/or removed so that footnote 78 becomes footnote 83, the reference will automatically change to "see footnote 83".

Version 4.1 of Footnote can be purchased from Pro/Tem Software, 2363 Boulevard Circle, Walnut Creek, CA 94595, (415) 947-1000 or (800) 926-2222 (outside California).

Paul Brest
President Pro/Tem Software

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Dear FOG, You Just Saved my Osborne!

Most of the time when we start a letter with "Dear" we don't really mean it, but this time I do. Dear FOG, you saved my Osborne from the junk heap.

For the last year or so, I've had an intermittent problem with my computer not wanting to start. Instead of the nice sign-on message when I first turn it on, it would cover the screen with little boxes, spin both disk drives and beep incessantly. Sometimes, turning it off then back on would fix it; more often not. Once, I cycled it off and on more than 50 times without a single good start.

The good folks at the Vancouver Xerox service center tried to fix it . . . several times, and thankfully under a prepaid service contract. They gave me a new mother board, a new power supply and a new double density board. Just about all there is left of my original brown case machine is the case and one disk drive.

I finally did discover a low tech fix. Once in frustration, I slammed my fist down on it and it seemed to work fine after that . . . until the next time.

Basically I had given up on the machine and it was sitting in a corner of my home office, gathering dust and rarely used in favor of a more reliable Morrow in my downtown office and a Bondwell CP/M portable for on the road.

Then I spotted Steve Cunningham's letter in the February 1986 ***FOGHORN*** outlining a similar problem and a fix — wiggling the 80 column board to clean the contacts. I tried it, and it seems to have fixed the problem.

Once again, my FOG membership has paid for itself, giving me back a valuable piece of equipment.

FOG is one of the few things that keeps me in the CP/M world. The level of support, both technical, and in the early days emotional, the fun of being one of the founders of a local users' group, and the security of knowing that, as experienced as I may or may not be with my Osborne, there is somebody out there who has done everything I am trying, usually learning his or her lessons the hard way.

Four years ago, I had never used a computer. Last year, I made 60 percent of my income writing manuals for computers and peripherals. One of the other people with whom I helped found the Vancouver Island Osborne Group in the Spring of 1982, now has his own company doing custom software and educational packages for the Japanese market.

Mr. Osborne's funny looking suitcase has changed a lot of lives, still remains a good machine and a workhorse. I'm glad to have it back. Thanks.

Tim Perrin
Vancouver, British Columbia

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Ham Radio Help Wanted

I live on a farm and don't have any regular contact with computer users. The ***FOGHORN*** is my "window on the computer world". In that, I have found useful tips on WordStar and SuperCalc, the software I most frequently use. The rest of the services, the bulletin boards, library, etc., remain mysteries to me.

One of my interests is ham radio. Since I buried my Teletype machines in the pit, I have not been able to operate RTTY. Does anyone have any information on how to use my Osborne 1 DD in this mode?

K. E. Sorensen
Princeton, MN

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Some Help Needed with "Thought" Processors

I have just started learning the usefulness of "outline" and/or "thought" processors, via having recently begun to use the public domain TOUR20 by E. Taychart (FOG/CPM.011).

I have pretty well worked out its use and print functions (ROFFTOUR), but I am using the TOURINI.INI file as supplied.

To make it more sophisticated it needs: the highlight (reverse video), start and stop, home cursor and clear screen, terminal initialization sequence and terminal reset sequence. I know the values are known, but not by me.

Also, has anyone worked out a set of values that they think work particularly well?

Also as I enjoy TOUR20 I'm considering whether to buy a commercial version (KAMAS or THOUGHTLINE). Has anyone used these enough to give pro and cons? A comparative review in the ***FOGHORN*** would be great or I can be reached at (313) 662-5083 6-10 EST. Thanks for the help.

Joel Lowry
Ann Arbor, MI

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Help with Hard Disk Needed

Two years ago I bought a Helix Hard Disk Subsystem (10Mb, buffered Step) for my Osborne 1.

It did come with a manual and some programs to install the Subsystem on the Osborne, but without any further documentation.

Is there anybody in the FOG membership who has experience with this hard disk? Who knows the meaning of the error messages? Did anybody try to improve the controller program or to integrate this hard disk in the Osborne CBIOS?

Thanks for your help.

Paul Berbers
West Germany

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NOVICE NOTES

The first steps for those starting out.

Don't Forget About CP/M

by Raymond J. Beaton

I can't resist responding to an article in the December 1985 issue of the ***FOGHORN*** from Barton Hickman, *Use NSWEEP to Rid Your Disk of BAK files* (p. 16), regarding erasing .BAK files.

I am one of the less knowledgeable of computer operators, but would like to remind him of his operating system, resident on all disks.

To erase all backup files without going to any trouble just, when in WordStar's Edit No File Menu, type **X**. This puts you in the operating system. Then type **ERA*.BAK**. If you are using Drive B as your default, type **ERA B: *.BAK**.

Mr. Hickman, CP/M is ready to do lots of things for you.

A reminder of a previous article (possibly by Alan Chattaway). Instead of formatting new diskettes, have a master disk on hand. On this disk, place SYSGEN, PIP and XDIR. Then when you need a new disk for files, copy this master onto a blank. You get the most important utilities on your disk and can do the housekeeping chores right away.

I have just renewed my membership with my local club (VPCC) and feel it is the best money I have ever spent. Thanks for all the ideas and help. I have never written anything before because I have never felt I could contribute anything useful.

Keep the good stuff coming.

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Page Headings in WordStar

by Cathi Morrison

If you'd like to have a one line heading print automatically at the left margin at the top of each page after the first page, use a dot command.

At the upper left corner of your file, type **.HE** followed by the desired phrase, e.g.:

.HE March 10, 1986

You must have a Margin Top of three to accommodate the page heading command. This should be no problem since WordStar is defaulted to three.

*[Reprinted from the **H-P Network News.**]*

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Packing Printers in Odd Boxes

by David Ibbetson

If you're packing your printer for shipping, any box may be used provided it's strong enough and at least four inches larger than the printer in each direction.

The trick is to ensure that there's at least two inches of expanded polystyrene granules above, beneath, and on each side of the printer.

Don't forget to enclose the printer in a plastic bag!

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Want Library Copies?

Please refer to the **FOG MEMBER MERCHANDISE** in this issue or to the ***FOG Membership Information*** brochure sent to all members for information on obtaining copies of the disk library if you are unable to attend meetings of a local group. If you need a file in a hurry and have a modem, check the **FOG FONES** in this issue for the number of the **FOG** RBBS-RCP/M systems.

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John Gaudie is an electrical engineer holding two U.S. Patents on computer systems. He's been a consultant to Osborne Computer Corporation and continues to write for their magazine, the Portable Companion, Foghorn, Dog Bytes, and his own newsletter, the Survivor's Guide. Since 1981 he's been helping people get more from their Osborne Computers.

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ARTICLES

PIP — Peripheral Interchange Program

by Bill Quinn

Peripheral Interchange Program: those are three big words that we recognize as PIP.COM. You think that NSWP can do everything! It just ain't so. While NSWP is the best utility in our world of CP/M and while it has eliminated the use of many CP/M programs there are still some functions that only the PIP command can do for you.

And PIP does them well.

Do you want to write a few lines to a disk file without booting your WordStar or VDO program? It is easy to do with PIP.

Type at the prompt:

```
PIP SAMPLE.TXT=CON:
```

Then type your text.

Two rules to remember are:

(1) At the end of each screen line enter a ↵ (carriage return) and ^J and;
(2) Enter a ^Z to stop.

Try it and you will see that it works and is a fast method to write a file.

Want to print a file?

Type:

```
PIP LST:=B:SAMPLE.TXT
```

Now you are thinking that Quinn has flipped his lid since NSWP can also print a file. That is true, but PIP will allow many useful parameters while printing a file. Some of these parameters that I use all of the time to print files are:

F — filters out form feeds (ASCII value 0CH, "FF", or ^L).
L — converts UPPER case letters to lower case letters.
U — converts lower case letters to UPPER case letters.
N — adds line numbers to each line copied (very useful).
Z — sets the unused 8th bit of each character to 0 (used when printing WS files).
Pn — adds a form feed after each nth line (sets page length).

You have just written three different files and now want to combine them into one file. Use PIP by typing:

```
PIP RESULT=FILE1, FILE2, FILE3
```

One of the most useful parameters of PIP when listing a file to the printer is the Pn option which starts a new page every n lines. (I use this one all of the time.) This is especially true for long document files that have not been written in WordStar. Use PIP by typing:

```
PIP LST:=B:SAMPLE.DOC[FP50]
```

This example prints SAMPLE.DOC with 50 lines per page. You should also used the F option to remove form feeds from the source file.

Get out those books you have on CP/M and read the section on the PIP.COM and its parameters. Even NSWP can't do everything.

* * * * * * *

Going Back for Seconds

by Bill Quinn

Have you gone back for seconds lately? If not you may be missing some good procedures from the software that you own. I am talking about using your software programs for tasks other than what they were initially design to accomplish.

For example, you may have a program that came with your spelling checker that will sort a dictionary. You may be able to use this dictionary sort program on other ASCII files that you need in an alphabetical order. Do you remember the article in the ***Portable Companion*** on how to use SuperCalc to produce a few mailing labels with a copying machine?

A member of TBOG had a need for an index file of business letters that he writes. In this file he needed to keep a reference of the letter, name, address, date and a few of the important paragraphs in each letter. In the past this has required him to write a separate file for each letter and then read this file into an index using WordStar. Searching for the reference letter took forever and he wasn't sure he had the right letter. He also used dBASE II, but this required additional typing for each letter.

The CHEF program came back for seconds. CHEF is a great recipe program and has a superior text search procedure. After finding the recipe by TITLE or KEY WORD it displays the recipe on the screen and will allow it to be printed on a printer.

Since it handles text files why shouldn't this program work to keep other reference files? You would have to call your reference files by the names of RECIPES.1, .2, .3, etc., but it will work if you don't mix up the reference files disks with the true soup recipes. It works well for his application.

Weekly, he now can read (transfer) all letters into a file using VDO or WordStar (Non-document mode), editing the letters to take out any unnecessary information. He adds a one line title/date to a title line and any key words he desires for later searching. He may keep adding letters to the same file. Each reference file is kept to about 25K for easy editing.

Restrictions are, the title must be indented at least one space and the reference is limited to 3,000 characters.

The easy part is finding the reference. The CHEF program asks for the TITLE (name or date), or any of the KEY WORDS assigned to the letter. The program will search all reference files on both drives and list the requested information. You may prune the reference list or add to it at any time while searching.

⇨

Sounds easy doesn't it? It is!

The CHEF is a blue-ribbon program for those of you who collect or want to organize your recipes, but it can do seconds too.

Next time you wish you had a program to do that special job, go back and take a second look at the software you already own. It may be able to do the second job.

* * * * * * *

'Tube Wars' or Playing Computer Pranks

by Paul O'Nolan

I have always felt that there is a good book to be written on computer practical jokes, but I'm not sure how well it would sell, which is why I haven't written it yet.

All programmers, who get the opportunity, enjoy what has been called "Tube Wars" i.e., playing pranks on each other. Typically, these are harmless, or time-wasting at worst. Like making the computer give rude error messages, appear to delete files, log-out the victim immediately upon log-on, and so on.

Of an altogether different genre was a game called LOSE BIG that was suddenly rumored to be a GREAT GAME on one of the University of California campuses. The computer carried out instructions to delete all your files, as you were playing.

I think much of the amusement in computer skullduggery lies in the fun of making things happen when you're not around. Which reminds me, I heard of one program that was run late at night in University College Galway (Ireland), some years ago, to entertain the cleaning ladies and other folks on campus at midnight. The computer chose an on-line, but inactive terminal at random from those available and drew a skull on the screen. A pair of eyes looked left then right, then the image vanished!

In a somewhat similar vein was the parting card of a disgruntled programmer who left the employ of an airline with a large on-line ticket reservation system. His program randomly sent a message to one of hundreds of terminals, saying "I am the missing glitch — catch me if you can!" The program then relocated itself to another disk, anywhere on the system — which was large and not all in one place, and erased the last copy.

The ticket operators had this message interrupt whatever they were doing, but other than that it was harmless. How could they catch the glitch — it kept moving? They could take down the whole system and systematically go through every file on every disk . . . and go out of business? I don't know how they caught it (looking at file activity records, probably) but they did in the end, at some expense.

Slightly more demonstrative was the COOKIE MONSTER. This was a fiend who wouldn't go away without a cookie. It worked like this: there you are typing away at the terminal, suddenly the word "cookie" appears on the bottom of your screen. Puzzled, you pause for a moment. You have a few seconds in which to type in the word "cookie". If you don't, the cookie monster will write the words "GIMME COOKIE" all over your screen, obliterating your work, and then wait for a cookie again. There's no arguing with the cookie monster — if you should meet him, give him his cookie!

Now there are practical jokes and there are crimes. One New York programmer programmed a company computer to erase all files six months after he was "terminated". In due course he was fired, and late one night six months later the computer began to ask the operators for EVERY tape in the building, backups included. They obliged, the computer erased, and the company went belly up.

That'll do to introduce the subject of electronically-perpetrated practical jokes. For those of you in Florida, the following is from an issue of the British magazine: ***Personal Computer World***: (see also ***BYTE*** April 1984, p. 30):

"Let's focus our attentions on the possibilities of man-dolphin communication."

"The Syntauri Corporation is a front runner for the Silliest Software Package of the Year award for its dolphin communications package running on an Apple II".

"Yes folks, you, too, can have a dialogue with dolphins! You may be wondering how it can be proved that dolphins actually understand the high-pitched gibberish produced by the program."

"Well, Syntauri (working at the Institute of Delphinid Research in Florida) plans to build an underwater link (a microphone to you) between dolphins and the computer, so that dolphins can produce their own combination of words."

"'Imagine a dolphin composing and communicating an intelligent unique sentence to a human!' says the blurb."

"Yes, we're imagining, and we can't repeat what that intelligent, unique sentence might be . . ."

My understanding is that a killer whale was the first to tell a human where to put his microphone, in so many phonemes. Since then I've seen at least three species of primate, including a gorilla and a chimp, say the same thing on public TV. California and Florida lead the world in this kind of research, not counting the CIA who've been talking to the animals for years. The program runs on an Apple, and costs $39. Call Flipper at (415) 966-1273.

*[Reproduced from the **Oracle of ZEUS**, the newsletter of the independent Zorba Equipment Users' Society.]*

* * * * * * *

Looking for a Local Group?

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NSWEEP Article or an Interview with Dave Rand

CREDITS: This article appeared in the Dec-Jan 1986 issue 27 of ***Micro Cornucopia.***

NOTE: I have only included highlights from this article.

Excerpts from Talks by Dave Rand at SOG IV, Definicon Systems, Inc., 21042 Vintage St, Chatsworth, CA 91311, (818) 341-5654.

I developed NSWEEP because I wasn't satisfied with SWEEP. The original SWEEP was written in PL1, the different research compiler, and it was really good. In fact, I thought it was one of the best programs I'd ever seen. The only problem was it took up 38K on my disk, and I couldn't afford that much space. But since I really liked its features, I decided to build an assembly language equivalent. That was the origin of NSWEEP.

NSWEEP In the Public Domain

The first public domain release of NSWEEP was version 1.41, and thank goodness no one still has it. Version 2 was the first one with the SQUEEZE algorithm added.

People have asked me why I didn't sell it. Good question and easy to answer.

Because NSWEEP is in the public domain, I've received a lot of positive feedback from people who use the program. If it were commercial, I don't think I would have had that response. I would have been a lot richer, but I'm not in it for the money.

The other reason I worked through the public domain is that when I first got into CP/M programming I was lost. I had no idea what CP/M was all about. I started to fumble my way through CP/M, and it was pretty tough. When I found out about the public domain and bulletin boards, I thought: "This guy is obviously insane. He's put up his computer as a remote access system. People are just calling in and taking his software".

I couldn't understand the concept, but as I used it I found I was actually learning from other people and from the way they were doing things. The original SWEEP program was a perfect example. I learned enough from that program to enable me to develop the NSWEEP program. But more than that, I learned how to deal with CP/M. So that is the reason I contributed NSWEEP back to the public domain.

Inside NSWEEP

Q: What are the undocumented flags in NSWEEP?

A: The most common question I get. I was called at 4 in the morning by a person who had set his files to system in read only, and he couldn't unset them.

The Y command is an extension of the Mass commands, (M and the Q). First you tag the files (with the wild card W or the T), then you hit Y, and it ask which flags you want — either 1 through 4, R, S, or A (R is read only; S is system; A is archive).

A lot of people have asked me what the 1 through 4 are for. They're referred to in the MP/M documentation as "compatibility attributes". They determine how MP/M responds to a COM file. If you have a COM file which opens the same file more than once, MP/M normally blows up on that error, because you're trying to open a file that's already open. By setting the compatibility attributes, you can say: "Look O (the operating system) knows that this program does that, but it's OK".

If you have reverse video enhancement patched into your version of NSWEEP, you can see the attributes on the filenames as reverse video, underlined characters, or blinking characters. Then you can run down your file list, tag the files you want with the 1 through 4, which are the first four characters of the filename, and then do what you want with them as a common set.

There really aren't any undocumented flags. You can't have any more bits than those in the filename, because that's all CP/M knows about. You can set files that are currently READ ONLY or SYSTEM back to directory status. You can use a D for any character that isn't — R,S,A,1,2,3,4.

Q: It can reset all the bits?

A: It resets all the bits except the ones you've specified, unlike other programs that only set certain bits, like STAT.

Q: Does any capability exist to tag all the files that have one of those bits on?

A: No. About 20 people have asked me for that. If you had an operating system that resets the archive bit, you could tell it to tag all the entries that aren't archived and then back them up. You'd then have a better means of dealing with your files.

Q: I still don't understand archiving.

A: In NSWEEP, if you tag files and then do a mass operation on them, they get marked with a # sign instead of a star. That indicates that they used to be tagged but aren't anymore. The (A)gain command retags those files that have a # sign beside them.

So you would say (A)gain, which would retag those files, Y, to go into set status, and then A to reset the archive bit on those files which you backed up.

Q: How do you deal with programs like WordStar that reset those bits?

A: WS doesn't reset them directly — only when you modify a file.

Q: So if you go in and edit a file, the backup file will have the bits set, but the new file won't.

A: That's correct. Now believe it or not that's a feature because it allows you to use this archive bit feature of CP/M if your BDOS supports it. If it copied all the attributes of the old file, obviously you'd have problems.

Q: Why isn't there a feature to move a file from one user area to another user area without copying it?

A: That feature bent my head so much you can't imagine. The original version of NSWEEP had it, but I had to pull it out because I had to make direct file calls to do it, and I didn't work on CP/M 3.0, MP/M, or TURBO-DOS. I could see no way of actually resetting that use number without going through a BIOS call.

Then Jim (a friend of mine who's written lots of good public domain programs, including the SQUEEZE section of the current NSWEEP) showed me up again. We were talking and he says to me: "Why don't you set the reserved bit and issue a close?" I said, "What?!" And he repeats: "All you have to do is set this undocumented bit here, and issue a close, and it works".

You can do it one of two ways. The rename function has two modes. The first one is renamed on a file basis. So if you say R, it asks for a new name. Let's say you're in Drive B User 0 and you got the file NSWEEP.COM. You want to change (move with no copy) that to user 14. You say, "14:NSWEEP.COM", and it moves the file from user 0 to user 14 in an operating system independent manner.

The second way is the wild card mode. Let's say you want to take all the files in user 0 and move them up to user 14. You say R, then enter a * or ? it says, "Old name" you say, "B0:*.*". It says, "New Name" you say, "14:*.* ↩" (↩ means carriage return). And it moves all the files from user 0 to user 14 with no interruption on your part, and it doesn't copy them.

Q: There are a couple of us who have non-video Kaypros. Is there any provision to patch NSWEEP so it can let us know about the bits?

A: A users' group in Vancouver wrote to me about how they did that. They made the "reverse video on" attribute be a left bracket. The "reverse video off" be a right bracket. It screwed up the display a little but it works.

Q: I've been using the verify function, and it works great on mass copy, but I'm having trouble using it on individual files.

A: Real common problem. I had to make a decision on how I was going to implement that. You're sitting on NSWEEP and you issue a C. It asks you for a new file spec. Now that differs from the move which asks you for only a drive and user number. I was trying to accommodate people who are just copying in between drives with the copy command by allowing these forms: C, C0, C0:, and other similar forms. And you can even type things like 14, which means "Current drive user 14". You don't have to put the colon; it just figures it out.

You type C0 V, and NSWEEP says: "I'm smarter than he is, so I'll copy it to a file called C0 on the current drive".

Here's how to get around it. You put the colon which tells NSWEEP it's a drive and user spec. Don't forget the space; it has to go in there. And that solves the problem, although it's not the ultimate solution. In the new version, there's an installable option that lets you chose whether you want to verify all the time or not.

EOF — Interview

Well that's all I have included. These are just the highlights of the article. I hope it has answered some of your questions as far as NSWEEP is concerned. I know it did mine, especially the move function, which is a real time saver for hard disk users.

Entered by:

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FOG System #24
P.O. Box 694
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Velcro to the Rescue

by Gerald Grow

Velcro to the rescue. I have put stick-on velcro strips on the brown lip above the screen and disk drive doors, and corresponding velcro patches on the keyboard cord and power cord. The velcro holds the power and keyboard cords long enough for me to get the cover closed. There is plenty of room inside the keyboard/cover for the cords, but only at the top part. The fit is too tight at the bottom.

I have also attached two plastic library-cases of diskettes to the outside of my Zorba's brown cover — again by means of velcro strips on the computer that match pairs of strips on the disk boxes.

Since I do not have a carrying case for the Zorba, this arrangement enables me to carry two, or even three boxes of disks snugly attached to the computer's top and side. The boxes are oriented so that I can open and use them without detaching them.

When I started with the Zorba, I was used to finding the **ESC**, **DEL**, and **CTRL** keys differently. With round rough patches of stick-on velcro covering these keys (red for **CTRL**, black for **ESC** and **DEL**), I now can infallibly find these keys by touch.

And, since I often write in near darkness, I have put a velcro tactile marker on certain function keys, so I can quickly orient my fingertips by touch alone, and not have to look down at the keyboard to use the function keys.

*[Taken from the **Oracle of Zeus**, the newsletter of the Independent Zorba Equipment Users' Society.]*

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HARDWARE REVIEWS

The Epson Portable Printer

by Bill Gillette

Having a portable, or at least a transportable computer is a blessing to many of us. Unfortunately versatile, portable printers have not been as available. Those that have been available have mostly required the use of non-standard paper or have given poor print quality.

Epson has recently offered an ink jet printer named the HS-80 LetterJet. My experience with it covers about six months (at the time of writing), during which it has been carried to work in a shoulder bag and automobile several times each week. It has been used mostly with a NEC 9201 computer, but the results are similar with my Osborne.

As its name implies, the LetterJet is of ink-jet type.

It has a 4ml refillable tank that the user replenishes with cartridges purchased from an Epson dealer. The ink has not leaked during transport in spite of being carried on its side and being jostled. The printer runs on built-in rechargeable nickel-cadmium batteries or an AC adaptor. The case dimensions are: height 3", depth 4-3/4", width 13-3/4". The weight is about four pounds. The manual is outstanding; comprehensive, clear and well illustrated.

The interface is Centronics parallel. Characters available through software control are Normal Pica and Elite, Italic Pica and Elite, Expanded, Compressed, Double Strike, Emphasized, Super and Subscripts and several combinations of these. There is a Near-Letter Quality mode too; it is selectable by DIP switch as well as by software. Maximum paper width is 8-15/16". It is friction feed only.

Installation of the LetterJet is the same as with other Epson dot matrix printers. I can disconnect my MX-80 and replace it with the LetterJet without needing to reinstall the software. The cable connection is standard, as noted above.

My impressions to date follow. The print quality is satisfactory as a dot matrix, and a little better than the MX-80. There are nine vertical dots, including two descenders. However it is not letter quality, and the Near Letter Quality (NQL) mode doesn't make it one. Emphasized and double strike mode are entirely satisfactory to me, but not everyone would agree.

The printers seem very well made, although the case is light and needs gentle treatment. I consider the LetterJet a versatile and convenient, but light duty printer. The paper must be non absorbent or the ink will bleed into it. Copier paper works OK.

There are some problems with the LetterJet. First, it is S...L...O...W. Epson rates it at up to 192 characters per second, depending on character mode. My impression is that it actually runs at a small fraction of that and much slower than my MX-80.

A separate problem is the ink; it is expensive and the 4ml increments from each injector (at about $7 each) don't last long. (I need a good source for this special quick-drying ink: can anyone help? The injectors are refillable, but I hate to gamble on using regular ink.) Also the ink occasionally clogs one or more jets, causing some delay and wasted paper.

On balance, I am very pleased with the LetterJet. I'd been searching for quite a while for a portable printer from a well known manufacturer that could be used for notes and memos with a lap top computer. Both fit nicely into a shoulder bag, with plenty of room left over for paper, manuals, AC adaptors and cables. The list price of $450 seemed reasonable, and discounts were readily found by mail order. So far, so good: I recommend it to others, with the limitations noted.

* * * * * * *

Drive C

by Neil Halava

I purchased my Drive C back in the spring with the Supersize SuperCalc and it is just terrific! I thought that everyone would be writing something about SSC2 but haven't noticed too much mentioned about it yet at the time of writing (December 1985).

I purchased the 384K unit and would like to have the 1 meg unit (you ALWAYS find the need for the additional space). No more struggling along with three 24K separate spreadsheets.

Here are a few tips on using Drive C.

According to the users manual there is no way to specify a program to load automatically if you use the **DCA R B** or similar command. Below are the Submit files that I use to get around this. Using these files will automatically retrieve the archive disks that you feed the Drive B and then execute the main program that you want to run with that archive collection.

With this method, you need just the one DC USER DISK for whatever archive collection you will use. The files that select different automatic functions are contained on the archive disks. I have my SuperCalc archive disk set load SuperCalc and the WordStar set loads SmartKey with the WordStar key definitions and then WordStar.

DCQ.DAT FILE FROM THE DC USER DISK

```
DCL A P
DCQ N A + C:SUB C:START
```

START.SUB FILE FROM THE DC USER DISK

```
ERA A:DCU.COM
ERA A:DCN.COM
DCA R B
PIP A:=C:$$$$$$.SUB
A:
ERA C:$$$$$$.SUB
C:SUB PROGST
```

PROGST.SUB FROM THE WORDSTAR ARCHIVE DISK SET

```
C:SMK WS
WS
C:FK
/70
D
```

PROGST.SUB FROM THE SUPERCALC ARCHIVE DISK SET

```
SC
```

The PROGST.SUB files will have to be created with WordStar and then saved to the Drive C unit to be archived in your set. SUB.COM is SUBMIT.COM. /.COM is a 0 length command file to recall FK.COM in the WordStar PROGST.SUB file (for SMK users).

I keep almost all of my utilities on the DC user disk and call them from the floppy in the physical Drive A (logical C drive) when I need them. Remember to use two **$** for each one you want in a .SUB file.

I have PIPed a copy of DCN.COM to my DC user disk and call it from there if I need it. This is a kludgy way to do this, perhaps someone has a better idea?

Notes on Supersize SC2

With the new SuperCalc I am unable to load SmartKey. I hope that this can be resolved. I use a spreadsheet that is 212K in size quite extensively.

I have an Execute file that is about 4,000 keystrokes long which I use weekly to do all sorts of things.

I output to the printer two pages at a time and have put an ASCII form feed in cell B60 to get the pages to start at top of form.

I used DU.COM to search for what I HAD put in B60 and then overwrote the FF on it. I have done this same thing also for putting in boldface and double strike commands.

I set SSC2 for continuous paper (0 length) and form feeds on. This allows for my not having to put a book on the keyboard during the execution of my Execute file as I did with 1.12. (No, I don't have a cat).

A Note on Using WordStar with the Drive C

I load my text file onto the Drive C for maximum speed. As using **^K^S^Q^P** to save and resume only saves the file you are working on to the volatile RAM disk, I have come up with the following function key to save the working file to a floppy disk on the Drive B called SAVED.FIL and I use this instead of **^K^S**. It takes about five seconds to save a 4K file to the floppy in this manner. Here is the function key:

```
^K9^Q^R^K^B^Q^C^K^K^K^WB:SAVED.FIL ↩Y^K^H^Q9^K9
```

Briefly, this sets a marker where the cursor is, moves to the file beginning, marks the beginning block, moves to end of file, marks end of block, issues a write block command to B:SAVED.FIL, overwrites the B:SAVED.FIL already on the Drive B, hides the block, returns the cursor to block marker 9 and erases block marker 9.

I have been extremely busy, and am sorry that I haven't been able to contribute sooner. A belated thanks to Bob Weaver for his help. Hope this helps someone.

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SOFTWARE REVIEWS

SmartKey — Part 2

by Charles Sandercock

SmartKey comes complete with SMARTKEY.COM, which really does all the work and WS.DEF, a definition file which contains redefinitions. The distribution disk version of WS.DEF is only an example and you can create your own definitions to suit yourself. These are the only two files which must be on either your A disk (which usually has WordStar on it) or your B disk (which I usually use solely for data).

SMARTKEY.COM is 4K, WS.DEF's length depends on your definitions but its maximum is 8K. Thus the most you will use is 12K.

Only 8K of redefinitions? Well, that is 1000 times more than the original Osborne 1 DD and infinitely more than some other computers which gave you no redefinitions at all.

Further, I will be showing you how less than 4K of redefinitions will give you access to 12K of boilerplate (and I have only been at it for a short time).

SmartKey also comes on its distribution disk with files DB.DEF and PW.DEF which are definition files applicable to dBASE and Perfect Writer. It is quite easy to devise further .DEF files to suit other major programs such as MBASIC, C, Pascal, etc.

Obviously, you keep SMARTKEY.COM and the appropriate .DEF file on the appropriate disks. SmartKey also provides files FIXKEY.COM, SKPATCH.COM and several document files explaining use and patching if desired.

SKPATCH.COM is used to "install", i.e., to "permanently" select things such as which key is supershift and which is setup and — very importantly — if you want to end a pause, during which you can input variable data, with a carriage return ↩ or with the setup key.

This ability to pause for input is fantastic. It enables you to:

1. Commence a calling routine to call in a file.
2. Enter a file name (usually a very short name, such as A (for addresses), F (for formats), E (for enders), etc., then press ↩ and SmartKey calls in that file.
3. Find part of a file. SmartKey pauses to ask you what part of the file you want. You then enter a short string of letters, never more than four but usually two to identify the part of the file, then press ↩. SmartKey searches, finds the beginning of what you want, eliminates material above that, finds the end of what you want and eliminates below that, leaving only the part of the file in your file.

The only limit on this search-find-eliminate routine is disk access time. Hence it is pointless to use if for less than 80 characters (but conventional SFK strings using SmartKey do that quite quickly).

SKPATCH.COM also allows you to change the speed of definition output, enter in hexadecimal and a number of other things. SKPATCH.COM is not needed on any work disk and is purely an install program.

A great virtue of SmartKey is the .DEF file. These are prepared in WordStar or other word processing programs under the type .DTX and later are compiled into .DEF files using FIXKEY.COM.

Using WordStar you can prepare your .DTX file at leisure, correct it and print it for record purposes.

Redefining keys using the "setup" key still has its place for temporary definitions. For instance, at the start of this article I did the following redefinitions using "setup":

\s redefined to SMARTKEY
\S redefined to SMARTKEY.COM
\f redefined to FIXKEY
\k redefined to SKPATCH.CON
\E redefined to ".DEF"
\T redefined to ".DTX"

as I knew I would be using those expressions often. However, I do not need them so much as to be "permanent".

Getting back to .DTX files; their format is basically like this:

```
‹.s›  ‹SMARTKEY›
‹.S›  ‹SMARTKEY.COM›
```
etc.

The "dot" S is the symbolic representation of ASCII character 9D hex which is accessed by \s and the second set of broken brackets contains the redefinition.

When a pause is required, proceed as follows:

```
‹.P›  ‹a:PIP›‹=b:*.*[v]›
```

When used, \P calls PIP, waits for input of a file name followed by ↩ and thereafter copies that file to the B disk and verifies.

You can have as many pauses as you like. You also can have up to 3250 characters in a redefinition string. My maximum so far is 169 characters.

When the .DTX file is complete — and it is easy to do as you can use full WordStar edit features — you simply load SMARTKEY.COM, then FIXKEY.COM and use FIXKEY.COM to compile the .DTX file into definitions in the way SmartKey likes them. The so-compiled definitions can be used temporarily (while you prove they work) or stored in a "permanent" .DEF file. By "permanent", I mean until I want to change it. Definition amendment is possible and new .DTX files can be created by FIXKEY.COM.

For a month or so you will need FIXKEY.COM on your WordStar disk while you perfect your definitions but when they are right, FIXKEY.COM can be put on another disk for the rare times it will be used unless you, like me, have your head buzzing with ideas for SmartKey definitions (like one to transpose incorrectly typed letters).

For those interested, SmartKey can be used to completely redefine your keyboard to be Dvorak.

However, it is not my task to teach you fully how to compile definitions. For $49.95 (CP/M version) or $59.95 (IBM and compatibles version 5.1) from SRT (Software Research Technologies), you get a full book on it plus all the help you need from SRT if you strike problems.

[SRT's address is 3757 Wilshire Blvd. (Ste. 211), Los Angeles, CA 90010. Their phone no. is (213) 384-5430 — Sales; (213) 384-4120 — Support.]

What I am on about is using SmartKey!

3250 characters is a heck of a lot. Think of all the redefinitions. Think of the huge boilerplate you could call in.

But is 3250 really all that much? At 80 char/line, 60 lines pages, 3250 is about three quarters of a page and if we are talking boilerplate well that isn't much at all.

Great for addresses? Yes, but even a short local address is 80 characters. A long address to a person in a department of a big company on the umpteenth floor of a big building on one of many streets in a huge town in a big state (with zip code) of an overseas country, can be as much as 180 characters. So, perhaps as many as 40 addresses or as few as 20 addresses can be stored.

So this is where the story will begin in the next part.

• • • • • • •

FRONT — A Front-end Utility for CP/M

by Carl Tenning

The other day I stopped in at Ballard Computer to see what they had in stock for the Osborne, and bumped into Claude Ostyn, the author of some CP/M things including FILTER on — FOG/UTL.057. He introduced me to his latest creation FRONT.

FRONT is front-end utility for CP/M. It replaces the A> prompt with a menu of available programs and lets you select the program to run by just moving a highlight to the program name and pressing the ↵ (carriage return) key.

It is designed as a turnkey system for people who would be utterly confused by CP/M. To run a BASIC program, for instance, you would not have to type in **MBASIC MYPROGRM**, but would just have to move the cursor over the name MYPROGRM and press ↵.

Also, by typing **M**, all the names of programs that don't begin with **M** would disappear from the menu. Then you would type **Y** and, if no other program begins with **MY**, FRONT would show only **MYPROGRM** and ask for optional arguments. As soon as you press ↵, the command MBASIC MYPROGRM will execute.

⇨

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FRONT is supplied with an extensive document file and an installation program and is intended for any CP/M system. The installation program supports the Osborne 1 and Executive. Although FRONT is copyrighted by Claude Ostyn, it is stated in the documentation that it may be copied, used and distributed freely at no cost for the benefit and enjoyment of all CP/M users, but may not be sold or included in a package for sale, without the prior written permission of the author. FRONT and its associated files will be placed in the FOG disk library.

Claude Ostyn is a video producer from Sitka, Alaska. He is currently working on a masters degree at Stanford University.

* * * * * * *

Checks and Balances

by Jim Holmes

Checks and Balances (from CDE Software), an outstanding program which can do a good deal more than maintain your checkbook, is one of those great deals I almost missed. In fact I DID miss it first time around.

I saw it demo'ed at a user group and will admit it looked easy to use, powerful, etc. The price of $74.95 seemed well worth it, IF you needed such a thing.

I didn't buy it, though. I HATE to balance my checkbook, and I don't have any money, so what's the point? Well, cooler (smarter?) heads did prevail, so I now see the point, in fact, several of them.

Checks and Balances is easy to learn and easy to use. It takes a lot of the pain and strain out of keeping track of your checks, and other expenditures. If I haven't any money, that's partly (mostly?) due to bad habits regarding it.

I can earn it and spend it just fine — what I have problems with is holding onto it. Checks and Balances will save me far more that it costs, just in the time it will save preparing Income Tax returns. That's not to mention the extra deductions I will have documented, and so forth.

Further, I'm doing a much better job of planning (and staying within a budget) since I got the program. I must admit I even enjoy using it, because it's very well thought out and, user-friendly to the max (to quote my daughter's [Valley] girl friend).

Checks and Balances is also a very handy teaching tool for showing someone how to use computers. Most kids get hooked with games, but many adults don't want to waste time playing games. On the other side of the coin, learning BASIC or an applications program like WordStar, SuperCalc or any of the other major packages is very time consuming. I know a number of writers who've resisted computers (and who needs it MORE?) to this day, because they've not yet seen what a boon it WILL be. Almost anyone can learn to use Checks and Balances in one session. I did, and that's proof enough. Sure, you get better over time, but you can do it the first time. That's important!

There are a host of features I have yet to really do much with myself, but I believe that many would buy this program simply to get its extras. There is an Electronic Rolodex, (handy on its own) used for printing checks, automatically or individually.

If you would like to read a detailed description and evaluation of Checks and Balances, the February 1985 ***User's Guide*** #13 (p. 16) has an excellent article. But I suggest that if you've read this far, you'll buy the program . . . and you should. There's a good, clear .DOC included. Don't make the same mistake I almost did.

You may order Checks and Balances directly, or have a user group representative contact them about a group purchase. The company's address is:

CDE Software
2463 McCready Ave
Los Angeles, CA 90030

* * * * * * *

Nevada COBOL

by Chuck Somerville

Comments from Zorba computer owners about the bundled software that came with the computer was that it was a little thin, especially in the languages department. I tend to agree. (At least in the high-level language area. I thought the MicroSoft Macro-80 package was a very desirable item, but I'm an inveterate bit-twiddler!)

It is true that CBASIC is widely used for microcomputer business applications, but I don't think that's due to any particularly notable features. I rather tend to believe it simply was a compiler, and available, early in the game. (Just as BASIC itself was a language, and available, even earlier in the game.)

A language has existed for some time which is quite well suited to some types of business data processing applications (as distinct from computing) due to several major strengths. That language is COBOL.

First created in the mid-fifties, the language has evolved over the years into a strong vehicle for data and file-intensive, maintainable, and reasonably well structured applications. Several implementations are now available for microcomputers, typically ranging in price from $400 to several thousand dollars.

You already plunked down a tidy wad of cash for your Zorba, and probably aren't inclined to be separated from additional large sums without good reason! Mainframe computer users don't pay 10 percent of the machine's price for a program . . . they pay closer to one percent (or less).

Microcomputer users have, on the other hand, been treated to a software marketplace where virtually all significant software costs $200 (10 percent of my Zorba) or more a copy.

This has spawned the problem of rampant software piracy. Fortunately for us, this very problem has led to relief for our already strained computer budgets. In an attempt to thwart losses due to piracy, several more forward-looking software companies have countered with very aggressive pricing (under $50!) which virtually shames a potential thief into buying his own copy (giving him, into the bargain, all the manuals and the availability of vendor support).

Pioneers in this strategy are Walt Bilofsky's Software Toolworks and Chuck Ellis' Ellis Computing (5655 Riggins Ct., Suite 10, Reno, NV 89502, (702) 827-3030). Ellis Computing's Nevada COBOL gives us the power of the proven mainframe language at a micro price: $39.95.

Nevada COBOL is a compiler, not an interpreter, but it does require a run-time system (like CBASIC's CRUN2.COM) to execute its programs. The programs are, however, 8080 native code, and run quite fast. It is a fairly large subset of ANSI standard COBOL, and the features not found in Nevada COBOL will either be seldom needed, or relatively easily programmed around.

It would be easier to list those features not supported, than to try to list the features available.

ANSI Standard COBOL Features Not In Nevada COBOL

RESERVE n ALTERNATE AREAS (buffering is done by CP/M)
CODE SET IS alphabet-name
ORGANIZATION IS INDEXED (only relative-record random files)
INDEXED BY (OCCURS is supported, but index data items are not)
COMPUTE (use ADD, SUBTRACT, MULTIPLY, and DIVIDE statements)
COMMUNICATIONS SECTION
CORRESPONDING
DECLARATIVES SECTION
STRING, UNSTRING
The SEARCH verb
The REPORT WRITER feature
The SORT verb
VARYING (PERFORM...UNTIL and PERFORM...TIMES are supported)

The standard CP/M file types are supported (sequential and relative record random-access), and CALL and CANCEL for COBOL or assembler-language dynamically-loaded subroutines are available.

A utility is provided to convert .HEX files (output of CP/M's ASM.COM assembler) to the format required by the run-time system's loader so as to facilitate writing assembler language subroutines. The loader scheme is documented so that one can, with a little thought, use Macro-80 to produce usable subroutines as well.

I have found only four of what I consider to be deficiencies in Nevada COBOL.

(1) Error handling is a little weak. Some compiler-detected syntax errors are either misdiagnosed, or the diagnostic message points to the wrong spot. Sometimes an incorrect statement goes undiagnosed and a subsequent line gets an invalid diagnostic.

(2) Some code which should be allowed causes errors until restated differently.

(I must admit that there could be fixes available for these.)

(3) Nested IF statements are not allowed. Chuck Ellis says this would require redesign to implement, and probably won't be done (with the possible exception of an upcoming IBM/PC version).

For example, You can't say . . .

```
IF condition-1
   statement-1
   IF condition-2
      statement-2
   ELSE
      statement-3
ELSE
   statement-4
   IF condition-3
      statement-5
   ELSE
      statement-6
```

(4) No amount of fiddling with the terminal installation scheme or the various I/O options would cause a DISPLAY to the screen to "wrap around" upon reaching column 80. It was just plain impossible to display a screenful at a time by DISPLAYing a 1920-byte data structure. It turns out the only fix is to patch the CONOUT routine in Zorba's BIOS. It seems the Zorba designers left code in place to wrap around, but chose to branch around it. A one-byte patch is all that is needed. All versions of BASIC I have seen so far do their own keeping track of column number, and provide their own "wrap-around" when needed.

In summary, while it is probably not the best COBOL for a CP/M-based microcomputer, I think the Nevada COBOL package is by far the best value. Syntax error handling is a whole subscience within the science of compiler-writing, and I know that I, for one, have seen a lot of strange diagnostics come out of a lot of mainframe language translators which cost several orders of magnitude more than $39.95. For a system this inexpensive, which runs on such a small minimum configuration (20K CP/M is all that's needed), a little "Whaddaya want fer a lousy $39.95?" goes a long way!

*[Reproduced from the **Oracle of ZEUS**, the newsletter of the independent Zorba Equipment Users' Society.]*

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FILEBASE: Big-Bucks Power at a Penny-Pinching Price

by Jim Holmes

When I bought my computer, it came (I was told) with "all the software; a complete set of programs for every need". Since then, I've spent a lot updating and extending my "complete set" and I expect to buy more. A friend complains, "I waste too much time fiddling with software; I can't get anything done any more . . . but at least I'm doing it instantly!"

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When I look at new programs, I ask first: "How much time will it REALLY save me?" The time spent learning a program must be considered, too.

Next, I ask myself: "Do you really NEED to do this?" Every micro user needs to handle data. MailMerge is a data base program, I guess, but it's neither convenient to use or update.

For me, FILEBASE is the answer! A data base program ideally designed to work with software I've already got, FILEBASE is easy to learn. It does everything I want for today, plus it provides a means for expansion, when (and if) I like, yet doesn't cost more than present needs justify.

Many times a user overbuys, being eager to avoid getting locked into a package s/he'll "outgrow". dBASE II is a powerful and versatile program and it costs like one; it also takes a lot of time to learn. For many, it's a waste of time (and money).

It is fully menu-driven, so well thought out that you can likely load and use it without reading the documentation! That would be a mistake, however; FILEBASE is loaded with features, some not as obvious as others.

FILEBASE does not need fixed length records; it reads the file to find out field types, lengths, etc.! But you can convert (back and forth) between the MailMerge-type or fixed-record files! This makes FILEBASE a natural "utility" for dBASE II, as well as MailMerge.

NOTE: There are three main ways data handlers separate fields within records. Fixed-record systems (like dBASE II) allow a specific number of spaces for every field; the variable record systems use a comma [,] (as with MailMerge) or a carriage return ↵ (known as BLOCK FORMAT) between fields, to separate (delimit) input.

As noted above, FILEBASE handles all conversions (to and from) for fixed-record and comma-delimited files and it even has a set up to output a Block Format file, if needed.

An undocumented (but confirmed by the author) feature of FILEBASE is a means for accepting input from Block Format files, with conversion to the comma-delimited filetype.

With any text editor, like VDO (or WordStar's non-document mode) simply edit the FIRST record (of your Block Format file),

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i.e., you insert a comma [,] between fields and a carriage return ↩ at the record's end. Now, load FILEBASE and process the file. Select Option #8 (Write a Subset of Fields to a New File) from the Main Menu, and rename fields in the same order. A mirror-image file (in MailMerge-type format) will be produced.

FILEBASE updates records easily (far more than dBASE, and FORGET MailMerge). Adding fields or changing record length is simple in FILEBASE, too. Best of all, records stored in FILEBASE require about 1/2 the disk space as in dBASE II!

Do you use mailing lists? FILEBASE has a feature which inserts a pause between records on printing. It can set the number of tabs (vertical and horizontal) for printing envelopes. At print time, if you like, you may "key in" comments in selected files.

FILEBASE is truly flexible. If you can program in BASIC, it's simple to write short routines to perform some frequently-needed calculation, order customized reports (for printout or to disk), etc. As is, FILEBASE will merge input files and create multiple output files from one or two inputs. Sort in ascending order (descending, if you'd rather) on Last Name, even in "embedded" (wholename) fields, on zip code (also in embedded fields) or on date(s) as you like. If you wish you may SELECT/EXCLUDE for:

EQ — equal to
GT — greater than
GE — greater than or equal to
LT — less than
LE — less than or equal to

AS WELL AS:

BT — between values
LS — one of a list of values (up to 300, unrelated)
RR — range of record numbers (up to 1,000 unrelated #'s)

FILEBASE is powerful, but has it's limitations. With a 64K RAM (larger memory = higher limits), these are:

Record length — 4096 bytes max
Fields per record — 40 max
Input files per execution — 2
Output files per execution — 2
Records for SELECT/EXCLUDE — 15,000 max
Records for Sorting — 4000 max
File size — 240K max
Sort precision — 10 digits

FILEBASE (Release 3.0) costs $100. If yours is an IBM-PC compatible (a CP/M machine, with 80 columns and 150K drives is OK, too), get Release 4.6.

Added features include joining of fields, global addition of standard phrase fields, greater mathematic and subtotal capabilities, plus several new sort and print options. Release 4.6 is only $125 from EWDP Software Inc., P.O. Box 40283, Indianapolis, IN 46240; ph: (317) 872-8799.

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PUNT

by Carter Preston

Your back is to the wall, and those letters are due to go out tomorrow. What do you do? PUNT.

I don't know if the name given to this program by The Pacific Foundation for the Advancement of Science and Medicine has anything to do with football, but it seems appropriate.

PUNT is a set of MailMerge programs for use with WordStar. It automates the creation of your mail lists. It will type addresses on your envelopes, make mailing labels, index cards and even fill out Federal Express forms.

If you have WordStar with MailMerge, you don't "need" PUNT. You already have everything you need to do everything PUNT does.

If you have the time and patience and the know-how, you don't PUNT. The point is that the folks at The Pacific Foundation has been through your struggle itself, and out of it has emerged a neat package that lets you pick up where The Foundation left off.

I have used the program here in my church situation, and am pleased with its performance. I found the documentation to be fairly straightforward. My Osborne Vixen delivered as promised, when I could force myself to follow the manual and not run ahead of the process (you know, read the directions only after all else has failed).

I especially liked the price. For a $48 donation, you can become an expert PUNT-er. That makes the program free, doesn't it? PUNT is available for nearly all personal computers, such as: Osborne, Kaypro, IBM-PC, XT and AT, Heath, TI, Cromemco, TRS-80, Xerox, Zenith, NorthStar.

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The MIX "C" Compiler

by Jerry Boyce

Sometime ago I decided that I would investigate the use of the "C" language with the idea of using it to write some of my programs as I had been impressed with the performance of "C" programs written by others.

After purchasing approximately $100 worth of "C" tutorial books, two commercial compilers (C/80 from The Software Toolworks and ECO-80 from EcoSoft), downloaded all that I could find on Small-C form the RCP/M's, and studied a friend's manual on BDS "C" by BD Software, I had decided that the "C" language was not for me.

I could not begin to understand the programming as there was nothing to teach a rank beginner how to get started. The tutorial books and compiler documentation all seemed to assume that you knew the basics of the language and just needed some help on the expansion of your programs to use less code or make them run faster.

Of course all books and compiler documentation explained in great detail how to write code for "Hello World" and "My first "C" Program" then jumped into rather complicated code with no good explanation of how you arrived at that code.

At the point of giving up, I saw the MIX C Compiler advertised for a total cost of $44.95 ($39.95 + $5 for P&H) by MIX Software, 2116 E. Arapaho, Richardson, TX 75081.

My thought at the time was that another $45 might save my investment to date and if not I would be out about $300 instead of $250.

I used the 800 number (1-800-523-9520) provided and placed the order on a Thursday with the understanding that it would be shipped on Friday. It turned out that the material was not shipped until Monday, so it was received on the following Friday instead of Wednesday or Thursday. This was considered good as experience has shown that with mail order computer material shipment within five to 10 working days is called immediate shipment.

My normal procedure is to read completely through a book or documentation before trying the information on the computer. About half way through the tutorial section of the manual, I began to realize how good the tutorial was because I could actually foresee exactly how the example program would be written before I looked at it.

The study text starts two programming steps before you write the usual "Hello World" program. The first code consists of just the opening "main()" statement followed by the opening and closing braces which will actually compile and run although you will not be able to see anything on the screen.

The guide proceeds to increase the size of the code step by step and they fully explain each procedure as the code is gradually increased to more than a full page.

Most of the example programs are written in the most simple form at first and then changes are made to shorten the code and/or to speed up the running of the program and the procedure is fully explained.

The manual is printed on 8-1/2" x 11" inch paper and contains 433 information-packed pages written in a clear and easily understood style. The author of the tutorial is not mentioned but he/she deserves a lot of credit. I have gotten more basic information on the "C" language from this manual than from the other $100 worth that I had previously purchased.

If I had gotten this manual at first there would have been no need to purchase most of the others. The MIX C manual alone is well worth the total $44.95 purchase price. The manual is composed of five sections. A **Getting Started Section** of 19 pages which is mostly used to explain the software on the two Osborne disks.

The **Tutorial Section** of 120 pages is the best that I have seen. Next is the **Reference Manual** of 178 pages that covers most every phase of the "C" language. The fourth section is one on the **'C' Functions** and consists of 99 pages on this most important part of the language and the last is a 17 page section on the **Tools** that are provided on the disks that are given to you with the manual.

I am unable to make many comments on the MIX C Compiler other than to say that it does a good job of compiling the example code in the manual. I have completed about two thirds of my second trip through the manual in which I am entering, compiling and running all the example programs.

There has been no problem compiling the code once I have corrected my typo's. I cannot make any comment on the speed of the compiler or the size of the code generated as I have not used any other compiler.

I highly recommend this package (manual and software) to anyone that wants to get started in "C" programming and it could help those that are presently struggling with the language using other manuals. It is well worth the price.

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GOING INSIDE

Patch your software
to fix a bug or
customize your system.

Discover DIY: DU It Yourself Part 1

by Paul O'Nolan

[This article assumes you have DU, version 75 or later and have renamed it DU.COM.]

There are many reasons why it's a good thing to know what the "inside" of a floppy disk "looks" like. There's the knowledge for its own sake argument, and then practical considerations, such as knowing where to begin when something goes wrong.

Do things go wrong with floppy disks?! Well, hold your horses, I just said "when something goes wrong". Imagine you are working away at your computer late one night, on an important file. Just as you are about finished the lights flicker momentarily. Even as you hold your breath, the disk drive with your file in it begins to make strange noises that make your hair stand on end. Since it sounds as though the drive is eating the disk, you hit the reset button in a hurry. Unfortunately it's over an hour since you last backed up to a separate disk.

Something has gone wrong.

We'll suppose that in this case the drive was writing information to the disk when an electrical failure occurred causing the drive to write electromagnetic drivel to your disk. The same thing could have happened if the drive malfunctioned "all by itself". Your drive could also have encountered a bad, (or improperly formatted, i.e. unintelligible), sector on the disk.

Bad sectors mean lost data, except when they occur during the formatting of a disk, which is then discarded as defective. They can result from wear of the disk surface by the drive head, or from dirt, or from doing any of the things one should not do to floppy disks.

Well, you could be lucky and never have any of these things happen to you. Ask yourself two questions. First, are you prepared? Second, do you know what to do next?

What you can do to be prepared:

1. Make frequent backups, including backups to a separate disk. PIP or a file transfer program like NSWP207 is better for backups than doing straight disk copies.
2. Test your disks by running the FINDBAD program, (FOG Starter Disk) on them. FINDBAD gathers any bad sectors into a special file so that the computer will never attempt to use them. This can prolong the useful life of your disks.
3. Even so, replace your oldest disks periodically. Just how often depends on the quality of the disks, the value of their contents, as well as on how much they have been used. Some companies replace their disks annually. I suggest replacing a disk after about 2000 hours of use.
4. Have your disk drives tuned twice a year if you use them everyday, once a year otherwise. If you must wait until they must be serviced, as in "repaired", be prepared. BACK THE FILE UP!

If, in spite of all your preparations, you find yourself alone in the small hours of the morning with your head in your hands, saying "now what do I do?", fear not.

It is possible to apply electromagnetic resuscitation to the stricken disk. Your ambulance is a program called DU, (also on the starter disk). Read on: you will learn about disks and how to become a D.I.Y. expert.

The Disk, the Whole Disk and Nothing but the Disk

Take a good look at a floppy disk. They'll be extinct before long, but first they'll get smaller and acquire very colorful jackets. There's more to it than meets the eye.

The part of the disk used for recording information consists of 40 concentric tracks numbered from 0 to 39. Each of these tracks is comprised of 80 sectors, each containing 128 bytes. The disk, when used by the CP/M operating system, is partitioned into system and data areas.

The system area, track 0, is where CP/M lives, (if there is a copy of it on the disk). All other tracks make up the data area. The data area is itself divided into two areas:

- * a directory area; and
- * a data storage area.

On a Zorba disk the directory area occupies the first 16 sectors of track 1.

So, our disk looks like this:

	Track:	Sectors:
1. Reserved area - CP/M system track:	0	1 - 80
2. Directory '' - 1 or more entries per file:	1	1 - 16
3. Data storage area:	1	17 - 80
Data storage continued:	2 - 39	1 - 80

Total data storage area: (38 x 80) - 16 = 3104 sectors.

All CP/M disks, regardless of their total capacity, are organized into system, directory and data storage areas. What varies from one disk format to another is the location and size of each of these areas. The track and sector figures given above apply to the 388K Zorba disks. They are setup in a "disk definition table" in the BIOS, or Basic Input/Output System, a customizable part of CP/M. Collectively, these and other parameters make up a "disk parameter block" which effectively describes the disk format. The Zorba BIOS contains a disk parameter block, (DPB), for each of the formats the Zorba can handle.

Track 0 is always reserved for CP/M. So it is possible, using the SYSGEN program (also called SGEN), to place a copy of CP/M on any formatted CP/M disk. Some operating systems, such as MS-DOS, allow track zero to be used for data

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storage instead of the operating system. While this does increase the amount of disk space available, it introduces the complication of an additional disk format. Of course, it also means that you cannot change your mind and put a system on a disk that wasn't formatted to leave room for one in the first place.

The amount of information that can be stored on a floppy disk depends on several factors. The number of tracks, recording density and sector size are the most important for a given size disk. Recording density is 48 tracks per inch (tpi) on the Zorba, 96 tpi on the Zorba 2000.

The Directory, a Motel Register for Disk Blocks

Just as the mailman visits several houses, rather than make a separate trip for each one, CP/M has mail routes, for reading and writing disk sectors. These "allocation blocks" consist of several sectors grouped together. Like the atom, the allocation block is indivisible. CP/M gives no change from an incomplete block, i.e. one containing unused sectors. This blocking of sectors reduces the size of the disk directory needed, as well as the number of directory reads and disk drive head movements required to read a file.

A file stored on a CP/M disk need not occupy contiguous storage space. Indeed the blocks comprising a large file could be scattered all over the disk. CP/M uses the file directory as an index to locate the parts of the file. An individual disk block may, at different times, belong to different files. As with people in a motel, there is a conflict of interest if the same space is claimed simultaneously by two or more parties!

The 3104 sectors of data storage area described above are grouped into 194 blocks of 16 sectors each. Each of these blocks is 2K in size, since 16 sectors by 128 bytes = 2048 bytes, or 2K. You will never see a file on a Zorba disk less than 2K, because this is the size of a single allocation block. CP/M and the directory occupy six blocks, thus the total capacity of a Zorba disk is 400K.

A Two-bit Map, of a World That's Round and Flat

It's time to have a look at a disk. If you have FOG/UTL.002 with FMAP, SGEN a copy of this disk and place it in Drive A, then place another disk in Drive B (preferably one which is neither blank nor full).

Next, type **FMAP B:↵ B** at the A> prompt. You'll see a list of file names and associated allocation block numbers rush by, let them go. At the bottom of the screen you'll see something like this:

```
Bit map:
11111110111111111111111111111111111111111111111111
11111111111111111111011110111100111111111111111111
11110000111111111111111100001111111111111100000000
000000000000000000000000000000000000000000000
```

This is a bit mapped allocation map. Each of those ones and zeros represents the status of a corresponding allocation block. A zero indicates that the block is not allocated, a one indicates the reverse. Notice that there are some gaps, that is zeroes with ones on either side, where files have been deleted. If you count up these ones and zeroes, or bits, you'll find that they total 195, whereas only 194 blocks are available. This is because the first block, block or "group" (number) 0, is included. This represents the block where the directory is located. So the first bit will always appear as a 1, even on a blank disk, as long as it is formatted. The directory is really just another 2K file.

The block allocation map, such as that shown above, does not exist on the disk, it is constructed in memory by CP/M after the system is booted. CP/M searches this block allocation map, (or allocation "vector"), for free blocks when a file is to be created or expanded, and changes bits from 1's to 0's when blocks are freed by file deletion.

FMAP is one of the many fine public domain programs written by a programming phenomenon called Ward Christensen. Christensen started the world's first microcomputer bulletin board some years ago, in Chicago, and his modem protocol is now an industry standard.

FMAP is something of a vestigial component of that system, but is still useful for mapping disks and preparing lists of file names for input to CP/M's SUBMIT program.

He was the original developer of the public domain telecommunications program, known as Modem7, which compares favorably with many such programs costing hundreds of dollars, and whose file transfer routines have been widely copied.

Christensen was also the original author of DU, (for Disk Utility), the disk editor we'll be using shortly. DU is a truly complex program that has evolved over the years, becoming ever more sophisticated.

Earlier I said that FINDBAD gathers bad sectors into a special file. It does, but it usually removes good sectors from circulation too because it must sequester an entire block!! The program works by creating a directory entry, with a file name of [UNUSED].BAD, containing the block numbers in which bad sectors are found.

This works fine if FINDBAD discovers the bad sector before an attempt is made to use it. If the block containing the bad sector is already allocated then it will appear in two directory entries, in which case the allocation bit map will show a value of 2 for the block, indicating a conflict of ownership, e.g:

```
Bit map:
11111110111111111111111111111111111111111111111111
11111111111111111111011110111100111111111111121111 <-
11110000111111111111111100001111111111111100000000
000000000000000000000000000000000000000000000
```

So much for FINDBAD and FMAP, now let's get to work with DU at last. Type **DU #;X** at the A> prompt. The # command means print information about the disk parameters, the ; acts as a command separator and the **X** command causes DU to exit to CP/M. You should see the following on your screen:

```
Disk Utility ver 7.5
Universal version

Type ? for help
Type x to  exit
Disk information:
```

```
Tracks:         40
Sec/trk:        80
Grpsize:        16  (sectors per group)
Tot grps:      194
Dir entries     64
Sys tracks:      1

A>
```

These numbers look familiar! A group is a block, by the way, if you hadn't guessed already. The "Universal version" refers to DU's ability to adapt itself to different versions of the CP/M operating system (1.4, 2.x and in the case of DU v8.6, 3.x). This adaptable version often goes by the name DUU (for Disk Utility Universal). If you would like to verify that the disk parameters do vary between formats (and have a Zorba), do the following, type:

```
A> DU L?;#;X↵
```

where **?** is the appropriate drive designator (**N** for Kaypro, **O** for Osborne etc). This will cause DU to log-in the appropriate disk, and display the new disk parameters. Notice the difference between the Zorba and Kaypro formats is due largely to the fact that the Kaypro II uses only one side of a disk and employs a 1K allocation block (8 sectors).

Since the Zorba disk has a data storage capacity of 388K and is double sided, is it correct to assume that 194K are stored on each side? Yes. The Zorba disk drives have two disk heads per drive, one for each side of the disk. These heads move together, like the arms of a tuning fork. When the Zorba reads a track one head switches on and reads 40 sectors on one side, then the other switches on and reads the remaining 40 sectors of the track on the other side of the disk.

Thus each track is split, half on each side of the disk. Arranging data in "cylinders" like this minimizes the amount of disk head movement required to access data. It takes a lot longer to move a drive head than it does to switch it on or off.

On big disk drives — the kind that live in air conditioned rooms — the drive heads move together over several vertically stacked disks, somewhat like the teeth of a comb being thrust between the pages of a book. On such drives a cylinder of data can include two dozen recording surfaces, instead of two as on the Zorba drives.

So far I have said "Zorba disk" as though the 800K drives didn't exist. The Zorba 2000 uses 96 tracks per inch disk drives and, as one would expect, writes 80 tracks, or twice as many as the 48 tpi, 388K drives.

So it holds 776K of data, twice as much, right? Wrong. There is no need to devote 2 tracks to CP/M, so an additional track is available for data. OK, one track is 10K, so the Zorba 2000 disks are 786K? Close, in fact, they are 784K. You're wondering where the extra 2K went. It was used to double the size of the directory! However, doubling the size of the directory does not mean that the disk can store more files.

CP/M directory entries are 32 bytes long. On 388K Zorba disks, as we saw, 16 sectors of 128 bytes each are available for directory information. A quick calculation demonstrates that the directory can contain a maximum of 64 entries. Therefore, if a 388K Zorba disk had 64 2K files on it there would be no less than 260K unusable space left over! In practice, disk storage space usually runs out before directory entries are all used up.

Each directory entry contains the name of the file and information about where it is stored: 16 of the 32 bytes of the directory of each entry are used to hold a list of allocation block numbers used by the file. If a file is larger than 32K, (the largest size that can be accommodated by a list of 16 block numbers), then a second directory entry is required. Each directory entry has a sequence number, making it possible to maintain an ordered list of allocation blocks across several entries.

Don't Just Sit There, DU Something

```
Disk Utility ver 7.5
Universal version

Type ? for help
Type X to  exit
:lb↵
:g0↵
G=00:00, T=1, S=1, PS=0

:d↵
00  002D5A45 55534C49  42303031 00000000  *.-FILES  001....*
10  00000000 00000000  00000000 00000000  *................*
20  002F2020 20202020  20434F4D 00000002  *./       COM....*
30  01000000 00000000  00000000 00000000  *................*
40  00424143 4B555020  204D4E55 0000000B  *.BACKUP  MNU....*
50  02000000 00000000  00000000 00000000  *................*
60  0042414E 4E455220  2041514D 00000037  *.BANNER  AQM...7*
70  03040506 00000000  00000000 00000000  *................*
```

Load DU again, (type **DU**↵ at the A> prompt), and enter the commands shown above, (after DU's colon prompt). What you will see is the first sector of the directory, shown above, (in hexadecimal and ASCII respectively). The DU commands entered were:

- LB logs in Drive B
- G0 positions DU to start of the 1st block (group)
- D dumps current sector to the screen (Hexadecimal and ASCII)

That DU status line: **G=00:00, T=1, S=1, PS=0**

- **G** stands for group number. The two digits after the equals sign show the current group number, in hexadecimal. On the Zorba this field can contain a value ranging from 00H to C2H (0-194 decimal, H = hexadecimal). The next two digits indicate the current sector number. This can range from 00H to 0FH (0-15 decimal).
- **T** and **S** stand for track and sector respectively. Although CP/M sees the disk in terms of allocation blocks, real pigeon holes with real track and sector numbers must be located by the disk drive!
- **PS** is for "physical sector", which needn't concern us now; suffice to say that "logically" consecutive sectors may not necessarily be "physically" adjacent.

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The Directory Entry: More than a File Name

The sector shown above contains four 32 byte directory entries. One of them is deciphered below:

The first sixteen bytes:

```
60  0042414E 4E455220  2041514D 00000037  *.BANNER  AQM...7*
¦¦  ¦¦¦                       ¦ ¦¦     ¦¦    ¦          ¦
¦¦  ¦¦^---hex file name/type--^ ¦¦     ¦¦    ^file name^
¦¦  ¦¦                          ¦¦     ¦¦     in ASCII
¦¦  ¦¦              extent number-^^   ¦¦
¦¦  ¦¦                                 ¦¦
¦¦  ¦¦               number of records -^^ (hex value) see note
¦¦  ¦¦
¦¦  ^^-00 = file active other values (E.G 03) = user #
¦¦     E5 = file erased
¦¦
^^-displacement of line in directory sector
¦¦     (not part of the directory entry)
¦¦
vv
¦¦  The second sixteen bytes:
¦¦
70  03040506 00000000  00000000 00000000  *................*
     ¦                                 ¦   ¦
     ¦                                 ¦   ^ hex values of
    ^-----allocation group numbers-----^     block #'s are
                                             not printable
                                             - dot instead
```

Note: Number of records gives 128 byte record (i.e. sector) count, in last incomplete extent. Extent = 16K or 8 blocks.

There is a convenient table of ASCII, decimal and hexadecimal values in one of the manuals that came with your computer. You may like to write ^A through ^Z (control characters) in the left hand margin beside decimal values 1 through 26.

The form of a CP/M directory entry is:

Byte/s	Content	
0	Four low order bits = user number. E5 means file deleted	
1 - 8	File name	
		High bit set
9 \		Read only
10 -	File type	System status
11 /		File written to
12	Extent #. (directory entry sequence number).	
13-14	Reserved--used by a proprietary part of CP/M. Always 0's.	
15	Number of 128 byte records. (sectors). in file. hex value.	
16-31	Allocation block numbers. Unused positions are zero filled.	

The ASCII code uses only seven bits of a byte to represent characters and the eighth bit (or "high bit", since it occupies the most significant bit position) can be used for something else.

A common use is in parity checking. Here the high bit is set to a 1 or a 0 to make the total number of 1's or 0's in the byte an odd number or an even number (depending on whether odd or even parity is being used).

This is useful in error detection and correction in data communications. WordStar uses the high bit to mark ("soft") spaces and carriage returns which it entered, distinguishing them from ("hard") spaces and carriage returns entered by the user. There is no visible difference in hard and soft characters of this sort.

CP/M makes use of the high bits in the file type part of a file name. A high bit set in the 10th byte of the directory entry means that CP/M will not allow the file to be written to.

Similarly, in the next byte a high bit set means the file will not be displayed if a DIR command is issued, and will not be copied with a PIP *.* command. These file attributes may be set with the, (CP/M), STAT program. The high bit of the next byte is set when a file is written to.

This can be useful if used in conjunction with an incremental backup program, i.e., one which backs up files that have been written to, and then resets, (zeros), this bit.

It might be thought that the zero filled (unused) block numbers in the directory entry all point to block zero, and that this should cause a conflict. In fact block 0 is always where the directory begins, and since this is reserved, CP/M just ignores this allocation number.

Incidentally, the "E5" that appears in the first byte of a directory entry to mark the file as deleted was not chosen arbitrarily. When IBM's engineers invented the 8" disk, they spent a while figuring out what would be a good test pattern for a byte, and guess what, it was E5. In binary that's 11100101, which has a three, two, one look about it.

Zorba 2000 Disks, or High Capacity Disks in General

We saw that the 388K Zorba disk has 194 of its 200 allocation blocks available for data storage. Now, it is possible to store numbers up to decimal 255 in an unsigned eight bit byte. Clearly then a single byte cannot be used to contain an allocation block number greater than 255. Thus a directory entry can contain 16 single byte allocation block numbers only if the number of blocks does not exceed 255. So what's to be done with the 784K Zorba 2000 disks? They have 392 blocks! Two things can be done. The block size can be increased from 16 sectors to, say, 32 sectors, making the smallest possible file that can be stored on the disk, 4K in size. The alternative is to use two bytes to store each allocation block number in the directory entries.

Using two bytes allows us to address 65,536 block numbers, more than we could possibly need. So our directory entries then hold 8 block numbers instead of 16, and each directory entry can only contain storage information for files up to 16K in size (8 blocks of 2K each). Therefore, the Zorba 784K disks need twice as much directory space as the 388K ones.

DU Applications

New Keys for Old

Many printwheels are capable of printing more characters than are found on the Zorba keyboard. Have you ever wanted to send ASCII 96, (usually a grave accent), for example. What

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CALENDAR

Under this heading you will find the listing of activities and events of Affiliated Member Organizations. Listings are the responsibility of the groups' officers. Officers must have corrections into FOG office by the first of the month prior to publication (December 1st for the January issue). For a list of other groups, see *"**CONTACTS**"* in back issues starting January, 1983, or send a stamped, self-addressed envelope to the FOG offices. Please include a note with your geographical area. To verify the meeting date, time, or location, call the number in the right hand column.

Date	City	A.M.O.	Day	Time	Meeting Address	Contact No.
May 15	Soldotna, AK	18-PenFOG	3rd Th	7:00pm	Kenai Peninsula Community College	907-262-5801
May 19	Anchorage, AK	63-GUIDE	3rd M	7:00pm	Mountain View Library	907-276-6484
Jun 12	Sitka, AK	83-BUG	2nd Th	7:30pm	Human Services Center, 207 Moller Dr.	907-747-8615
Jun 10	Ketchikan, AK	89-KCPM	2nd Tu	7:00pm	1182 Black Bear Road	907-225-9249
May 31	Homewood, AL	49-FAOUG	last Sa	1:00pm	Homewood Public Library, 1755 Oxmoor Road	205-669-4396
Jun 12	Huntsville, AL	125-NAOUG	2nd Th	7:00pm	First American Federal Savings & Loan, 4008 University Drive	205-881-0377
Jun 12	Ft. Smith, AR	23-AFOG	2nd Th	7:00pm	Lewis Paint and Supply, 4900 Wheeler Avenue	501-785-0820
Jun 3	Tempe, AZ	100-TOG	1st Tu	6:30pm	Tempe Public Library, Pyle Adult Center, Southern Ave at Rural Rd	602-969-2074
May 28	Stockton, CA	11-SOG	4th W	7:00pm	Citicorp Savings, 1810 Pacific Ave.	209-951-4701
Jun 9	Fresno, CA	35-FROG	2nd M	7:00pm	1434 West Shaw, Suite A	209-683-2252
May 22	Porterville, CA	66-SVFOG	4th Th	6:00pm	1502 North Lowery	209-781-4123
May 21	Long Beach, CA	130-OPEN	3rd W	6:30pm	C.S.U., Learning Assistance Center	213-498-4186 x 5350
May 6	Campbell, CA	1-1st FOG SV	1st Tu	7:30pm	Campbell Public Library, 30 North Central	408-371-8699
May 22	Cupertino, CA	1-1st FOG SV	4th Th	7:30pm	Cupertino Public Library, 10400 Torre	408-371-8699
Jun 13	Castroville, CA	5-MBAOCUG	2nd F	7:00pm	Castroville Fire Station, Rec Room, Speegle & Pomber	408-728-1416
May 22	San Francisco, CA	2-SFCS	4th Th	7:00pm	St. Aidan's Church, Goldmine & Diamond Hgts.	415-929-0252
Jun 11	Oakland, CA	3-East Bay FOG	2nd W	6:00pm	B & B Electric, 2832 Ford Street	415-272-9099
Jun 10	San Rafael, CA	31-MOG	2nd Tu	7:00pm	San Rafael High School, 2nd Street	415-897-0629
May 21	Walnut Creek, CA	60-MTDOG	3rd W	7:00pm	Thurman Casey Memorial Library, 2661 Oak Grove Road	415-933-2665
May 19	Menlo Park, CA	68-SMOG^3	3rd M	7:30pm	Crane Place, 1331 Crane	415-325-2442
Jun 2	Menlo Park, CA	68-SMOG^3	1st M	7:30pm	Crane Place, 1331 Crane	415-325-2442
Jun 9	29 Palms, CA	114-HOG	2nd M	6:00pm	CONFIRM	619-367-9783
May 21	Arcata, CA	29-HOG	3rd W	7:15pm	Humbold State Univ., Science Bldg., Rm 126	707-445-2074
Jun 5	Santa Rosa, CA	56-No. Bay FOG	1st Th	7:30pm	Valley Oak Park Rec Hall, 2600 Northcoast St.	707-526-0250
Jun 1	Orange, CA	113-NOCOG	1st Su	2:30	Chapman College, Science Bldg., Rm 128	714-952-5627
Jun 3	Santa Maria, CA	42-SMOG	1st Tu	7:00pm	Sears Savings Bank, 401 South Broadway	805-937-1128
Jun 12	San Luis Obispo, CA	47-CCOG	2nd Th	7:00pm	TRW, 1050 Southwood Drive	805-528-2382
May 27	Santa Barbara, CA	69-OSBUG	last Tu	7:30pm	SB Planning Rm, 105 E. Anapamu St	805-687-8541
Jun 10	Pasadena, CA	84-OKOK	2nd Tu	6:30pm	Caltech, Winnette Lounge	818-794-3243
Jun 13	Chatsworth, CA	86-ONUG	2nd F	7:00pm	Wizard of OsZ 20630 Lassen Street	818-709-6202
May 27	San Fernando, CA	106-TUG-NET	4th Tu	7:00pm	Church of Christ, 1226 Glenoaks Blvd.(MS-DOS SIG)	818-994-6567
May 22	Sherman Oaks, CA	106-TUG-NET	4th Th	7:00pm	Central Savings, 4464 Van Nuys Blvd.(OSBORNE SIG)	818-994-6567
Jun 5	North Hollywood, CA	106-TUG-NET	1st Th	7:00pm	Valley Plaza Park Community Center, 12240 Archwood(GEN. MEETING)	818-994-6567
Jun 12	San Fernando, CA	106-TUG-NET	2nd Th	7:00pm	Church of Christ, 1226 Glenoaks Blvd.(KAYPRO SIG)	818-994-6567
Jun 12	Davis, CA	6-MUGSY	2nd Th	7:00pm	CONFIRM	707-557-5162
Jun 4	Sacramento, CA	61-SOG	1st W	7:30pm	SMUD Utility Bldg, 1708 59th St	916-444-7415
Jun 5	Denver, CO	4-DOG	1st Th	7:00pm	Clements Comm. Center 2nd Floor 1580 Yarrow	303-690-6301
Jun 11	Boulder, CO	65-BUG	2nd W	7:00pm	Colorado Univ. Business School, Rm 101	303-494-8741
Jun 4	Thornton, CO	85-MIST	1st W	7:00pm	12599 North Colorado Blvd	303-451-0456
May 21	Ft. Collins, CO	115-FTCOG	3rd W	7:30pm	C.S.U.Ind. Sciences Computer Lab, 200 W. Laurel, Rm 200	303-226-4156
May 21	Colorado Springs, CO	133-CSOG	each W	7:00pm	Hewlett Packard, Garden of the Gods, Spruce Rm	303-473-7647

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Date	City	A.M.O.	Day	Time	Meeting Address	Contact No.
May 28	Colorado Springs, CO	133-CSOG	each W	7:00pm	Hewlett Packard, Garden of the Gods, Spruce Rm	303-473-7647
Jun 4	Colorado Springs, CO	133-CSOG	each W	7:00pm	Hewlett Packard, Garden of the Gods, Spruce Rm	303-473-7647
Jun 11	Colorado Springs, CO	133-CSOG	each W	7:00pm	Hewlett Packard, Garden of the Gods, Spruce Rm	303-473-7647
May 28	Danbury, CT	40-DOG	4th W	7:00pm	Qualcorp, Shelter Rock Road	203-775-1102
Jun 11	Danbury, CT	40-DOG	2nd W	7:00pm	Danbury Hospital Library, 2nd Floor, 26 Hospital Avenue	203-775-1102
May 15	Orlando, FL	16-GOCUG	3rd Th	7:00pm	Photosound of Orlando, 1812 N. Mills Ave	305-295-5689
Jun 5	Orlando, FL	16-GOCUG	1st Th	7:00pm	Photosound of Orlando, 1812 N. Mills Ave	305-295-5689
May 29	Orlando, FL	16-GOCUG	each Th	7:30pm	Gard Micro Systems, 7525 Currency Road	305-295-5689
Jun 5	Orlando, FL	16-GOCUG	each Th	7:30pm	Gard Micro Systems, 7525 Currency Drive	305-295-5689
Jun 12	Orlando, FL	16-GOOUG	each Th	7:30pm	Gard Micro Systems, 7525 Currency Road	305-847-7031
May 15	Maitland, FL	20-CFLOG	3rd Th	7:30pm	Lake Faith Villas Club Room, Maitland Blvd	305-298-8576
Jun 5	Maitland, FL	20-CFLOG	1st Th	7:30pm	Lake Faith Villas Club Room, Maitland Blvd	305-298-8576
Jun 8	Miami, FL	26-GCOUG	2nd Su	1:30pm	F.I.U Tamiami Campus, Building DM, Room 100	305-233-1779
Jun 12	Ft. Lauderdale, FL	91-FLOG	2nd Th	7:00pm	Harris Computer Sys, 2101 W. Cypress Creek	305-748-7237
May 27	Clearwater, FL	46-TBOG	4th Tu	7:30pm	St. Petersburg Times Building	813-584-4185
Jun 10	Tampa, FL	46-TBOG	2nd Tu	7:30pm	Jefferson High School	813-584-4185
Jun 10	Tallahassee, FL	77-TCPMUG	2nd Tu	7:30pm	Episcopal Church of the Advent, 815 Piedmont Drive	904-878-4592
Jun 11	Jacksonville, FL	98-JOUG	2nd W	7:00pm	JEA Bldg, 233 W. Duval Street	904-633-4920
Jun 2	Athens, GA	81-CP/M Athens	1st M	7:00pm	Athens Microcomputer Center, W. Broad Street	404-353-2127
Jun 9	Atlanta, GA	93-TOGA	2nd M	7:00pm	Emory University, Chemistry Bldg. Ampitheater, Decatur Road	404-636-1480
Call	Hilo, HI	124-HIFOG	????		Shayne Enterprises, 180 Kinoole Street	808-935-8678
Call	Davenport, IA	102-QCOG	4th M	7:00pm	CONFIRM	319-386-3484
Jun 11	Davenport, IA	102-QCOG	2nd W	7:00pm	CONFIRM	319-386-3484
May 13	Des Moines, IA	12-Midwest FOG	2nd Tu	7:00pm	(odd months) Yonker's Computer Depot, 100 Merle Hay Plaza	515-270-3573
Jun 10	Ames, IA	12-Midwest FOG	2nd Tu	7:00pm	(even months) Ames Public Library	515-270-3573
Jun 12	Sioux City, IA	38-SOG	2nd Th	7:30pm	Western Iowa Tech., Room 508	712-252-2182
Call	River Grove, IL	80-CFOG	last Su	1:00pm	College Center Bldg, Triton College, 2000 Fifth Ave	312-654-0986
Jun 14	River Grove, IL	80-CFOG	2nd Sa	1:00pm	College Center Bldg, Triton College, 2000 Fifth Ave	312-654-0986
Jun 5	W. Lafayette, IN	34-HOG	1st Th	7:00pm	CONFIRM	317-474-0253
Jun 2	Bloomington, IN	87-IOU	1st M	7:30pm	Indiana Univ, Cyclotron Facility, 2401 M. B. Sampson Lane	812-334-3234
May 27	Wichita, KS	21-OPEK	4th Tu	7:30pm	St. Paul's Methodist Church, 1356 Broadway	316-832-0447
Jun 3	Hutchinson, KS	137-HUTCH	1st Tu	7:30	Hutchinson Public Library	316-663-7678
Jun 14	Louisville, KY	64-PCCL	2nd Sa	1:00pm	Univ. of Louisvile, Burhans Hall Rm 202, Shelbyville Road	502-451-0508
May 17	Lexington, KY	32-KOG	3rd Sa	12:00n	213 Funkhouser Building, University of Kentucky	606-269-1684
Jun 9	Baton Rouge, LA	103-FLOG	2nd M	7:00pm	Johnson Equipment Co., 4264 Perkins Road Co.	504-923-0888
May 27	Bedford, MA	122-BOG	last Tu	7:30pm	Mitre Corp., Route 62	617-484-1863
Jun 13	Lexington, MA	122-BOG	2nd F	7:30pm	Honeywell Electro Optical Div, Route 2A	617-484-1863
Call	Silver Spring, MD	96-ERC-OUG	????		CONFIRM	301-622-4400x5331
May 21	Columbia, MD	101-OSBUG	3rd W	7:30pm	Florence Bain Senior Center	301-997-3246
May 19	Portland, ME	136-SMOG	3rd M	7:00pm	Portland Jetport Conference Room	207-772-1616
May 19	Dearborn, MI	14-DeFOG	3rd M	7:30pm	Ford Tech Center Cafeteria, 1700 Rotunda Dr	313-626-6641
May 15	Ann Arbor, MI	37-TOGA^2	3rd Th	7:00pm	Neuro Science Bldg. Univ. of MI, 1103 East Huron St	313-665-5753
Jun 10	Duluth, MN	118-DSO	2nd Tu	7:00pm	1440 90th Avenue West	218-626-3344
Jun 12	St. Paul, MN	111-TCOG	2nd Th	7:00pm	Univ. of MN,St. Paul Campus Rm B-45 Classrm Off Bldg	612-698-0225
May 27	St. Louis, MO	55-SLOG	4th Tu	7:00pm	Thornhill Library, 12863 Willowyck	314-991-4399
May 27	Kansas City, MO	97-MIZOG	Last Tu	7:00pm	TWA Bldg, 13th & Baltimore	913-491-0690
Jun 3	Jackson, MS	58-MCPM	1st Tu	7:00pm	R & D Center, Ridgewood Road	601-856-2509
Jun 9	Charlotte, NC	71-LOGIC	2nd M	7:30pm	Home Federal Savings and Loan, Carmel Road	704-377-1154
May 8	High Point, NC	107-TROGIC	2nd M	7:30pm	(Odd Months) High Point College, Science Building, Basement	919-766-5530
Jun 12	High Point, NC	107-TROGIC	2nd Th	7:30pm	(Even Months) High Point College, Science Building, Basement	919-766-5530
May 19	Raleigh, NC	8-ROCC	3rd M	7:30pm	CONFIRM — Dreyfus Aud., Research Triangle Inst.	919-782-9576
May 15	Fargo, ND	117-O/KUG	3rd Th	7:00pm	NDSU, Civil Engineering, Room 216	701-280-1700

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Date	City	A.M.O.	Day	Time	Meeting Address	Contact No.
Jun 10	Lincoln, NE	39-Lincoln LOG	2nd Tu	7:30pm	5530 O Street	402-761-3393
May 21	Woodbridge, NJ	138-JOG	3rd W	7:30pm	St. James School, Main Street	201-272-2073
May 29	Albuquerque, NM	127-AOG	last Th	7:00pm	CONFIRM	505-268-3606
Jun 10	Albuquerque, NM	127-AOG	2nd Tu	7:00pm	CONFIRM	505-268-3606
May 21	Las Vegas, NV	25-VOG	3rd W	7:00pm	CONFIRM	702-452-2544
Jun 10	New York, NY	135-NYOUG	2nd Tu	7:00pm	73 Franklin Street	212-594-5976
Jun 1	Liverpool, NY	82-SOUP	1st Su	2:00pm	8371 Red Wing Drive	315-622-9209
Jun 11	W. Hempstead, NY	88-LION	2nd W	7:30pm	Adelphi Univ Cont Ed Ctr, Room 110, Eagle Ave	516-481-0129
Jun 10	Rochester, NY	132-FROG	2nd Tu	7:30pm	Monroe County Cooperative Ext. Center, 249 Highland Avenue	716-671-5838
May 21	Rye, NY	104-WOG	3rd W	7:15pm	Westchester Federal Savings Bank, 67 Purchase Street	914-725-1098
Jun 2	Oberlin, OH	9-^Ob^Os	1st M	7:30pm	Oberlin College, Rice Faculty Lounge, W. College Street	216-775-8706
Jun 9	Uniontown, OH	44-AKCAN	2nd M	6:30pm	13100 Cleveland Avenue NW	216-837-8926
Jun 11	Cleveland, OH	75-COG	2nd W	7:00pm	United Way, 3100 Euclid Avenue	216-888-2078
May 15	Cincinnati, OH	27-COG	3rd Tu	7:00pm	Central Trust Center 6th floor, 5th & Main Streets	513-232-4076
May 24	Cincinnati, OH	27-COG	4th Sa	2:00pm	2063 Beechmont	513-232-4076
Jun 14	Cincinnati, OH	27-COG	2nd Sa	2:00pm	2063 Beechmont	513-232-4076
Jun 3	Dayton, OH	79-DOUG	1st Tu	7:30pm	St. Paul's Episcopal Church, 33 Dixon Drive	513-837-5651
Jun 11	Oklahoma City, OK	67-OKLOG	2nd W	7:30pm	Southwestern Bell, 111 Dean A McGee, Blue & Gold Rm	405-360-2141
May 22	Tulsa, OK	51-OUT	4th Th	8:00pm	Sheridan Library, 62 North Sheridan Road	918-587-3918
Call	Medford, OR	54-RVOG	????		CONFIRM	503-773-1222
May 28	Portland, OR	57-PMS	4th W	7:30pm	Bonneville Power Admin. Aud., 1002 NE Holladay St.	503-228-6345
Jun 1	Eugene, OR	128-LOCUG	1st Su	7:00pm	Farwest Federal Bldg., 96 E. Broadway	503-747-8242
Jun 14	Philadelphia, PA	121-PhROG	2nd Sa	9:30am	Merck, Sharp & Dome, Sumneytown Pike	215-648-5862
Call	Pittsburgh, PA	50-TROG	4th Su	2:30pm	Mellon Science Building, Duquesne Univ.	412-456-3946
Call	Lancaster, PA	74-LOG	????	7:30pm	CONFIRM	717-285-4940
May 15	Lemoyne, PA	92-MIDPOG	3rd Th	7:30pm	One Stop Computer, 65 N. 5th St	717-243-7858
May 27	Greenville, SC	41-POGO	4th Tu	6:30pm	C. Douglas Wilson, 201 E. North Street	803-233-3434
May 15	Oak Ridge, TN	13-SMOG	3rd W	7:30pm	(odd months) ECS 136 Fairbanks	615-483-6857
Jun 18	Knoxville,TN	13-SMOG	3rd W	7:30pm	(even months) 11505 Kingston Pike	615-483-6857
May 15	Nashville, TN	119-MidTOG	3rd Th	7:00pm	Cumberland Museum, 800 ridley blvd.	615-244-5343
May 27	Memphis, TN	15-MOG	4th Tu	6:30pm	Poplar/White Station Library	901-522-1234
May 15	College Station, TX	43-AGGNOG	3rd Th	5:30pm	A & A Building, Texas A & M Univ. Room 503	409-845-7770
May 21	Austin, TX	7-AEIOU	3rd W	6:30pm	Old Quarry Library off Far West Blvd. 7051 Village Center	512-836-3010
May 16	Houston, TX	76-OUCH	3rd F	7:30pm	Univ. Houston, 101 Farish Hall, KIVA Rm. (Use lot 1341 off Cullen)	713-931-1096
Jun 14	Houston, TX	108-CLOG	2nd Sa	9:00am	Gilruth Rec. Center, Johnson Space Center	713-332-0859
Call	Amarillo, TX	28-POG	4th Su	2:30pm	Downtown Branch Amarillo Public Library	806-355-7509
Jun 8	Amarillo, TX	28-POG	2nd Su	2:30pm	Downtown Branch Amarillo Public Library	806-355-7509
Jun 9	Lubbock, TX	134-LOG	2nd M	7:30pm	Texas Tech Univ. Law Bldg., 19th & Hartford Room 202	806-742-3920
May 21	Provo, UT	30-KAOS	3rd W	7:00pm	Wiltec Research Co. 488 South 500 West	801-225-8293
May 15	Salt Lake City, UT	105-SMOG	3rd Th	6:00pm	Sofshop, 2166 Highland Drive	801-268-2831
May 15	Richmond, VA	52-CVOG	3rd Th	7:00pm	Red Cross Bldg, 4th and Main	804-282-9545
May 17	Norfolk, VA	78-TOG	3rd Sa	9:00am	ECPI, 3661 East Virginia Beach Blvd.	804-495-1596
May 15	St. Croix, VI	70-StCOUG	3rd Th	6:30pm	St. Croix Country Day School Library	809-773-7551
Jun 2	Tacoma, WA	72-TOG	1st M	7:00pm	Parkland Library (Basement Mtg Rm) 404 Garfield So.	206-752-5582
May 21	Federal Way, WA	99-SKOG	3rd W	7:30pm	Highline Comm. Coll, Gold Rm — Bldg 4	206-643-3521
May 19	East Wenatchee, WA	10-WOG	3rd M	7:00pm	211 Ridgemont Drive	509-884-3279
Jun 12	Richland, WA	19-TROG	2nd Th	7:00pm	Richland Public Library, Swift & Northgate	509-967-2430
Jun 11	Spokane, WA	123-SMUG	2nd W	7:00pm	Komputer Korner, N. 2001 Monroe	509-482-7989
May 19	Milwaukee, WI	22-MilwOG	1st M	7:00pm	Math Bldg. Rm 495, Univ. of W. M.	414-255-0440
Jun 3	Madison, WI	129-MOO	1st Tu	7:00pm	Univ of WI., 1210 West Dayton Street, Rm B-214	414-887-2036
May 21	St. Albans, WV	59-Valley FOG	3rd W	6:30pm	Public Library, 6th Ave. and 4th Street	304-727-8716
May 25	Ashburton, Aust	131-VOUG	4th Su	2:00am	(odd months) Ashburton Public Library, 152 High Street	03-459-8934

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Date	City	A.M.O.	Day	Time	Meeting Address	Contact No.
Jun 25	Melbourne, Aust	131-VOUG	4th W	6:00pm	(even months) RMIT, Swanson St., Floor 9, Bldg. 12, Rm 908	03-459-8934
Jun 9	Edmonton, Alta	45-KOG	2nd M	7:30pm	Alberta Vocational College, 10215 - 108 Street	403-464-5088
Jun 9	Calgary, Alta	94-COUG	2nd M	7:30pm	616 Macleod Trail S, Seminar room 3,	403-239-5685
Jun 11	Vancouver, B.C.	17-VPCC	2nd W	7:30pm	Hastings Community Center, 3096 East Hastings	604-298-6990
May 20	Victoria, B.C.	48-VICOG	3rd Tu	7:30pm	Canadian Forces Base Esquimalt	604-383-1512
May 26	Toronto, Ont	120-OUCT	last M	7:00pm	Parkdale Public Library, 1303 Queen St. W.	416-533-1531
Jun 10	London, Ont	95-LOG	2nd Tu	7:30pm	Univ. of W. Ont., Elborn College, Room 2130	519-438-7224 x267
Jun 5	Montreal, P.Q.	73-Microcozm	1st Th	6:30pm	Hillside Armoury, 3 Hillside Lane	514-932-4164
Call	Charlottenlund, Denmark	126-FORMICRO	????	5:00pm	CONFIRM	45-1-631760
Jun 9	Paris, France	110-OUF	2nd M	6:30pm	Centre Andre Malraux, 78 Bd Raspail	1-544-6216
Jun 5	Hod Hasharon	33-IOUG	1st Th	6:30pm	21 Hankin Str	052-34043
Jun 10	Auckland, New Zealand	53-NZOG	2nd Tu	8:00pm	Auckland University, Human Sciences Building, Rm 336	275-4310
Jun 4	Wellington, New Zealand	109-CROG	1st W	7:30pm	Cafeteria of Trade Span (N Z), 300 Tranaki St.	0064-4-791-172
May 20	Edenvale, So Africa	90-JOG	3rd Tu	6:30pm	Civic Centre	011-51-6304
Jun 13	Hattersheim, W. Ger.	24-AGOG	2nd F	7:00pm	Hattersheim Posthof	061-52-4210
May 21	Kaiserslautern, W. Ger.	62-FROG	3rd W	7:00pm	Ramstein Air Base, Ramstein Rec. Center	49-6371-13117
Call	Kronberg, W. Ger.	36-CCD	????		CONFIRM	07304-3274

FOG FONES

System ID	Phone number	Location	Size	Baud rate	When in operation	Notes
FOG office	(415) 755-2000	Daly City, CA	voice only		10am - 5:30pm/M-F	*voice calls only please*
FOG #1	(415) 755-2030	FOG Office	47Mb	3/12/24	24 hrs/seven days	
FOG #2	(604) 298-4299	Vancouver, BC	10Mb	300/1200	24 hrs/seven days	
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FOG #49	(201) 848-8217	Wyckoff, NJ	23Mb	3/12/24	24hrs/seven days	
FOG #50	(306) 949-1564	Regina, Sask.	47Mb	300/1200	24hrs/seven days	

cont. from page 38

about sending codes to a dot matrix printer to enable different pitches, graphics etc.? Well, you could patch WordStar to do some of these things. However, there's a way of making the keyboard send any value to the Zorba, and to your printer.

The codes generated by the keyboard come in two varieties — those produced by hardware, (a programmable chip in the keyboard), and those "produced" by software. All originate in hardware, but the Zorba checks the code generated at each key depression to see if the key is a function key. If it is, the character string specified using the SETUP program is substituted for the original code. The SETUP program stores function key definitions on the system track. Using DU you can edit these definitions to add new characters to the keyboard and define sequences that cannot be entered from the keyboard.

Pick a key, any function key. We're going to turn it into ASCII 96. On the screen it'll look like an inverted apostrophe, but it will print as an accent on most printwheels. Of course you should get the printer to backspace before printing this character. In WordStar this is accomplished by entering a control H into the text (type a control P followed by control H, it will look like ^H — that). Suppose you wanted to make function key number 2 issue the code for ASCII 96, define function keys 1 to 3 as follows:

1. Next key   **2. @**   **3. Last key**

The definitions for keys 1 and 3 serve no other purpose than to help locate the definition for function key number 2 on the disk. Once this has been done, load DU and give the following commands:

```
T0;S1;=Next key;D↩
```

You've commanded DU to position itself at track 0, sector 1, then to find the text string "Next key" and display the sector in which it was found. You should see the function key definitions you have just entered in this sector.

Locate the @ belonging to key #2. In order to change this byte to ASCII 96, (60 hexadecimal), you need to know its location in the current sector, i.e. whether it is byte number 56 or 82 or whatever — in other words its offset from the start of the sector. DU helps you determine this: on the left hand side of the screen is a list of numbers from 00 to 70. These are the offsets, in hexadecimal, of the first byte listed on each line from the start of the sector. Within a line the offsets are found as:

```
n0 n1 n2 n3 n4 n5 n6 n7 n8 n9 nA nB nC nD nE nF
```

where n = the number that appeared in the left margin (0-7). Thus the offsets range from 00 to 7F in hexadecimal, (0 to 127 in decimal).

Suppose the byte to be changed is 11 bytes in on the first line, change with the following DU command:

```
CH0A,60↩
```

DU will list the old value of the byte and replace it with 60H (H = hex). The old value should have been listed as 40. If it wasn't then you hit the wrong byte!

Change it back by reissuing the command with the old value instead of 60. To confirm that you've changed, (some people like to say "zapped"), the right byte, type a "D" command. DU will redisplay the sector showing any changes made. So far, however, the change has only been made in memory. If you "moved" to a different part of the disk and examined a new sector, the changes would be lost. To make the change permanent you need to write the sector back to the disk. This is done by typing: **W**↩ at DU's colon prompt.

You may now exit DU (**X** command) and try out your brand new key.

*[Reproduced from the **Oracle of ZEUS**, the newsletter of the Independent Zorba Equipment Users' Society.]*

* * * * * * *

Interfacing Printers with WordStar on CP/M

by Timothy Perrin

One of the biggest problems for computer users is getting their printer to talk to their computer. When you throw in a sophisticated program like WordStar, with its ability to access just about every feature a printer can provide, you have an almost infinite number of interfacing possibilities.

⇨

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This article should provide you with a basic understanding of how your computer talks to your printer and how the printer talks back. More specifically, it should help you get print spooling, one of WordStar's best features, working correctly on your system. When your WordStar is set up to print spool, you can be merrily editing one file and printing another at the same time. If you use your computer a lot, this ability to print "in the background" is a real time saver.

Basics of Interfacing

Remember that your computer and printer are really quite dumb. They "know" only two things: 1 and 0. Inside, these are represented by a "high" and "low" voltage. Each 1 or 0 is a "bit". For our purposes, eight of these bits make up a "byte".

There are 256 possible combinations of eight bits so there are 256 possible eight bit-bytes. The first 128 of these have been standardized into the American Standard Code for Information Interchange, known as ASCII. That means that almost every computer uses the same combinations or bits to represent the same character. So, for instance, the letter "A" is a sequence of bits like this:

```
0 1 0 0 0 0 0 1
```

The point is that when you send a character from your computer to your printer, what you are really sending is a collection of voltages representing one and zeros.

Serial and Parallel Interfacing

There are two common ways of sending these bits to your printer.

One way is to send them one after the other along a single wire. This is called "serial" transmission because the bits travel in a series. Include a ground wire and a wire for the printer to send messages to the computer and you have all the wires you need for an RS-232 serial interface. ("RS-232" is just the name of the published standards that specify which wire is to carry which signal and the voltages to use in such an interface.)

The other way is to send all eight bits down eight different wires at the same time: "parallel" transmission. When they have all been sent, a signal called the "strobe" is put on a ninth wire to let the printer know it can process what it has received. Add a 10th wire which allows the printer to communicate with the computer and you have a basic "Centronics" parallel interface, named after the printer company that invented it.

It really is that simple.

Knowing When the Printer Is Busy

The key to effective print spooling is for the computer and WordStar to have some way of knowing when the printer is "busy" and when it is available to receive more data. This is called "handshaking".

If you have a serial printer, you have your choice of "hardware handshaking" or "software handshaking". With parallel printers you must use hardware handshaking.

Software Handshaking

If you are using a serial interface, there are two software ways the printer can let the computer know it is busy. Both require the printer to send a character to the computer over a wire that is just like the wire the computer uses to send data to the printer, only going the other way.

XON/XOFF

In this protocol (the name for any set of procedures used between the printer and computer) the computer continues to send data to the printer until the printer sends the character **^S** (control S), also called XOFF or DC3, to the computer. This character just says "Stop". The computer stops sending characters until the printer sends **^Q** (XON or DC1) to the computer to tell it to start up again.

ETX/ACK

This system is even simpler. The computer sends data in packages of a standard length, usually 128 bytes. Each package of data ends with a **^C**, also called the ETX or End of TeXt character. The computer then pauses until the printer sends a **^F**, the ACK or acknowledge character. Then the computer sends another package of data ending with ETX etc.

Installing Print Spooling in Your WordStar

If you use a serial printer and software handshaking, then installing print spooling is simple. It merely requires running your WordStar INSTALL (or WINSTALL) program and selecting the correct protocol from the menu. Your choices will be:

A. None, or handled outside of WordStar
B. XON/XOFF
C. ETX/ACK

Pick B or C depending on which protocol your printer uses. (That can usually be set through your printer's DIP switches. See your printer documentation.)

Hardware Handshaking — Serial Communications

Hardware handshaking is done with a wire dedicated to this purpose, often called the hardware handshaking line. In a serial interface cable it is usually wire #11 or 20, the BUSY line.

This wire normally carries a 1, a "high" voltage. When the voltage is reduced to 0, a "low" voltage, the computer knows that the printer is busy and that it should stop sending information.

When this line is set to indicate busy, CP/M changes the value of a certain memory location, called the printer busy flag, to indicate that the printer is busy.

Hardware Handshaking — Parallel Communications

In a Centronics parallel interface there is a similar line. It is usually line #11 at the printer end. Again, when the printer is busy, the voltage on this line is set to a certain value, the computer knows the printer is busy and sets the value of the CP/M busy flag to so indicate.

The Printer Busy Flag

In a standard implementation of CP/M, the printer busy flag is always located at a memory "address" 45 bytes above the beginning of a portion of CP/M called the Basic Input Output System (BIOS). The address of the BIOS varies from machine to machine but it is easy to find with DDT (or SID, if you have it).

Make a copy of your WordStar disk. Make sure it has at least 30K of free room on it. You can erase the WordStar message file, WSMSGS.OVR, if necessary. With your CP/M disk in Drive A and the disk with WordStar on it in Drive B, type the following at the CP/M A> prompt:

DDT B:WS.COM ↵

If you have WordStar 3.30, the computer will say:

```
DDT VERS 2.2
NEXT PC
4600 0100
-
```

If you have WordStar 2.26 or 3.0, it will say:

```
DDT VERS 2.2
NEXT PC
3F00 0100
-
```

The hyphen is the DDT prompt. Type **DO** (that's the letter "dee" and the number "zero") and a carriage return.

-DO ↵

DDT will print out several lines of data, each of which will look something like this:

```
0000 C3 03 E1 00 00 C3 00 D4 ................
0008 01 03 55 55 55 55 55 55 ..........UUUUUU
```

This shows the "hexadecimal" values of the bytes stored in each memory location starting with the memory location specified by the number at the beginning of the line. ("Hexadecimal" is a special method of counting used by computers.) In this example, memory address 0000 contains a byte signified by the symbol C3.

Memory location 02 (the third set of numbers after the address) is the first two digits of the BIOS address. In this example, done on a double density Osborne 1, it is E1 meaning the BIOS starts at memory location E100. On an Osborne 1 single density system it will read E5 meaning the BIOS starts at memory location E500. On a Morrow MD3 it will read F2, i.e., the BIOS starts at F200.

As I said, the printer busy flag should always be 45 bytes above that address. Forty-five is 2D in hexadecimal so the printer busy flag would be at E12D in that single density Osborne, E52D in the double density Osborne, or F22D in the Morrow MD3.

Patching Your WordStar

In order to make print spooling work in a WordStar using hardware handshaking, you have to do two things. First, you have to tell it that handshaking is being handled "outside of WordStar" when asked by the INSTALL or WINSTALL program to select a protocol. Second, you have to "patch" your WordStar with a short set of commands that checks to see if the printer is busy.

The patch has three elements.

1. When WordStar is loaded into your computer, the byte at memory address 0718 is called HAVBSY. When the value of this memory location is FF then WordStar knows that a print spooling routine has been installed. If it is anything else, it presumes there is no print spooling routine.
2. Memory location 0719 (WS 2.26 and 3.0) or 071A (WS 3.3) is called LIBSY. There are three bytes here that tell WordStar where you have put the print spooling routine. The first is a C3. That is a machine language jump command that tells the program to jump to another memory address and continue working from there. The next two bytes are the location to which it is supposed to jump. One of the little tricks is that the memory address has to be specified backward. For example, if the jump is to address 0355 you enter the address as 55 03. So the sequence at this address could be C3 55 03 which says "Jump to memory location 0355".

   At 0355 (in our example) is the piece of programming that actually checks the printer busy flag. This "subroutine" is hidden away in part of WordStar set aside for these kinds of things called the User Patch Area. You can usually use memory locations 0355 (WS 2.26 or 3.0) or 0344 (WS 3.30). The only times these locations might not be available is when you already have installed some kind of patch in your WordStar to do something else. I'll show you how to check those locations in a minute.
3. The patch routine itself is seven bytes long.

```
CD          CALL look at the memory location specified next.
2D    \     These two bytes are the location of your CP/M
??    /     printer busy flag, again loaded backwards.
A7    ANA \ These three see what the value at that
C0    RNZ > memory address is to see if the printer
3F    CMC / is busy or not.
C9    RET   Return — go back to the main program.
```

This routine checks to see if the printer busy flag is set. If it is, WordStar continues to work as usual. If the printer is not busy, WordStar will send characters to the printer between dealing with your keystrokes.

Checking for Room

You should still have DDT loaded from earlier. If you don't, reload it by typing **DDT B:WS.COM** ↵ at the CP/M prompt.

Now, we are going to use DDT to patch WordStar. First, we have to check that there is room for the patch. If you have WordStar 2.26 or 3.0, at DDT's hyphen prompt type:

-D0355 ↵

The first seven bytes should be all zeroes like this:

```
0355 00 00 00 00 00 00 00 ......
```

If you have WordStar 3.30, type:

-D0344 ↵

The first seven bytes should be all zeroes like this:

```
0344 00 00 00 00 00 00 00 ......
```

⇨

If they are all zeroes, great, we are in business. If they are not, you have some conflicting patches already in place and may not be able to install print spooling without giving up these patches. See my article on page 42 of the Jan/Feb 1985 ***Portable Companion*** for one way around this.

However, presuming everything is OK, just follow this cookbook to install the patches you need. The hyphen is DDT's prompt.

WordStar 2.26 or 3.0

```
-S0718↩
0718 00 FF↩
0719 00 ↩
071A 00 C3↩
071B B7 55↩
071C C9 03↩
071D ?? .↩  (it doesn't matter what's originally here)

-S0355↩
0355 00 CD↩
0356 00 2D↩
0357 00 **↩  (the value for the start of your BIOS)
0358 00 A7↩
0359 00 C0↩
035A 00 3F↩
035B 00 C9↩
035C ?? .↩(it doesn't matter what's originally here)

-^C
A> SAVE 56 B:WS.COM↩
```

WordStar 3.30

```
A> DDT B:WS.COM↩
NEXT PC
4600 0100
-S0718↩
0718 00 FF↩
0719 00 C3↩
071A B7 44↩
071B C9 03↩
071C ?? .↩  (It doesn't matter what's originally here)

-S0330↩
0330 00 CD↩
0331 00 2D↩
0332 00 **↩  (The value for the start of your BIOS)
0333 00 A7↩
0334 00 C0↩
0335 00 3F↩
0336 00 C9↩
0337 ?? .↩  (It doesn't matter what's originally here)

-^C
A> SAVE 69 B:WS.COM↩
```

That should do it. Now start your WordStar and try it out.

What If It Doesn't Work? — Protocol Menu

If this routine is not working, there could be several reasons.

In the WordStar installation program you are asked to specify a protocol. You are given three choices:

A. Handled outside of WordStar
B. XON/XOFF
C. ETX/ACK

If you are using hardware handshaking and the patch routine I have outlined, then tell WordStar that the protocol is being handled outside of WordStar. If you want to use software handshaking then specify whether you want XON/XOFF or ETX/ACK.

If you have specified the wrong protocol, print spooling will not work.

If you have specified B or C and you do not have a line that allows your printer to send messages to your computer (normally line #2 on the printer) then it will not work.

If you have specified A and do not have a printer busy line implemented on either your serial or parallel interface then spooling will not work.

Overlapping Patches

There are many popular patches of WordStar that can conflict with this patch. For instance, the ***Portable Companion*** and the ***FOGHORN*** have both published patches over the years that might use some of the same memory locations I have used for this patch. Since I was using many of those patches myself, however, I already moved this print spooling patch out of the way of the ones I know about.

Use DDT to check the entire user patch area. It runs from 02DE to 035B in WordStar 2.26 and 3.0, and from 02BB to 034A in WordStar 3.30. In an unpatched WordStar it will be 128 bytes of zeros.

If there is no available space, you have to put the print spooling routine outside of WordStar and then make WordStar a bit larger. See my article on page 42 of the Jan/Feb 1985 ***Portable Companion*** for details.

Also, make sure that the jump routine at 071A (WS 2.26 and 3.0) or 0719 (WS 3.30) calls for the first address in the seven byte subroutine. Make sure you entered the address backwards. Make sure that you entered the address of the printer busy flag backwards as well when you patched it into the subroutine.

[Tim Perrin is a free-lance writer based in Vancouver, Canada. He uses a Morrow MD3 in his office, an Osborne 1 at home and a Bondwell 2 in between. In addition to writing about computers and new technology for several magazines, he also produces what he hopes are among the better manuals for computers and printers.]

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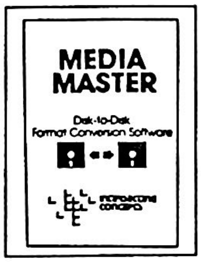

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Underlining in WordStar with a Dot Matrix Printer

by Tony Woozley

Here's how to set WordStar up so that it will give you continuous underlining (rather than the broken dash kind) whenever you want it.

I shall use WordStar 3.3 as the example (the drill for version 3.0 is somewhat different).

What you have to do is pick out one of the Printer Codes for which you have no use and redefine it so that it will toggle continuous underlining on and off.

A suitable one is the **^PY** that WordStar provides for changing your ribbon color, which you are unlikely to mind giving up. And you can make the change, by running either WINSTALL or DDT.

I'll describe the former method, because most people probably have some acquaintance with it. ↵ means enter a carriage return.

As a safety precaution make a copy of your present WordStar file, and then work on that copy. Then, if things go wrong, you still have your original WordStar file safe and sound. A simple way to do that is to rename the file with:

```
A> ren oldws.com=ws.com ↵
A> pip ws.com=oldws.com ↵
```

Now work exclusively with WS.COM. Start by passing through the early screens of WINSTALL until you reach the Installation Menu, where you again choose between two methods of achieving your goal.

I shall describe the shorter and quicker one for an Epson printer.

At the Installation Menu you are invited to select one of several letters. Don't take any of them.

Instead do something that you are not told about at all — hit the + key.

1. This will bring up a screen called `Custom Modification Routine`. Hit ↵.
2. You will be asked for a starting address. Reply by entering the label **:RIBBON** (You must start with the colon).
3. You will be told you are at address 6E3h. (H is not part of the address; it indicates that the numerals, like all the numerals in this operation, are in hexadecimal notation.) And below will be a row of 16 numerals. You will be asked if this is OK. It is, so enter **Y**.
4. The next screen may look terrifying, if you have not been in this sort of country before. Not to worry. Just follow these instructions blindly — but with your eyes wide open — to make sure that you enter things exactly as below. Where the cursor is flashing enter:

,03 ↵ (Put that comma in each time)
,1B ↵
,2D ↵
,31 ↵
. ↵ (No comma that time. Just the period.)

5. Then enter ↵ to continue, and repeat the pattern of 2. — 4. above, but entering different values. This time give as your starting address:

:RIBOFF (Don't forget that colon)

6. You will be told you are at address 6E8h. That is OK, so type **Y**.
7. Now the values to be entered at the cursor are:

,03 ↵
,1B ↵
,2D ↵
,30 ↵
. ↵

8. Next type **X** to leave the Modification routine. Then type **X** again to leave the Installation Menu. Then type **A** to save the changes you have made.

NOTE: The hexadecimal values given in 4. and 7. above are those for Epson printers, for which the Underline Mode ON command is: **<ESC>-1**, and for OFF is: **<ESC>-0**.

If you have a printer with different ON and OFF commands, the hexadecimal values will have to be changed correspondingly. *[Look in your printer manual for the correct hex values to use. Jack]*

The job is almost done, and you are now back at the `A>` or `B>`, or wherever you started. From now on, when writing a file use **^PY** in the way that you previously used **^PS**, and in the printed version of what you have written the expressions that you marked will have continuous underlining below them.

At the same time, you can go on using **^PS** just as you do now whenever you want to produce the broken dash kind of underlining.

There is just one more thing you have to remember when you are using this method of underlining. Dot matrix printers are very literal creatures, and when they are in Underline Mode they underline everything, including spaces between words, and also the blank space in the left margin.

If you want ***The Wind in the Willows*** (the whole title continuously underlined), **^PY*The Wind in the Willows*^PY** will give it to you. If you want ***The Wind in the Willows*** (each word separately underlined), you will have to write it as **^PY*The*^PY ^PY*Wind*^PY ^PY*in*^PY ^PY*the*^PY ^PY*Willows*^PY**.

And if, when you are using the first way, the book title happens to run over from the end of one line on your screen to the beginning of the next, in the printed version the blank space in the left margin of that second line will get underlined too. You can prevent that by putting in a closing **^PY** at the end of the first line and a new opening **^PY** at the beginning of the next.

But it is a nuisance to have to remember that on each occasion, and there is a cleaner way that I have been using for a long time, that I recommend.

It consists simply of telling WordStar that you are not going to have any left margin at all, and then secretly telling your printer to put it back again.

1. You remove the margin from WordStar by reducing the Page Offset to zero with the dot command: **.PO 0.** If it is worth your while, you could change your default Page Offset to that; and then you wouldn't have to think about it each time.
2. To get the printer to put the margin back again you have to run a very short file in BASIC before giving the command to print. I call the file LMARG.BAS; and this is all it consists of:

```
10 LPRINT CHR$(27)‘‘l’’CHR$(10)
20 SYSTEM
```

If you don't know what that means, it doesn't matter. It tells the Epson printer to put in a left margin of 10 characters. And if you don't know how to write and save that to disk in BASIC, get a friend who does to do it for you.

Make sure that you have MBASIC.COM and LMARG.BAS on the same disk as your WordStar files.

Now, when you have finished writing your file in WordStar and are ready to print it, first turn on the printer and then from the Opening Menu choose:

R Run a program and enter: **MBASIC lmarg** ↵

The BASIC program will run, set the margin on the printer and return you to the Opening Screen where you give the command **P** and start printing as usual.

That may all sound very complicated. But remember that you have to do it only once each time you turn on your printer. Thereafter, whenever you want to print anything and have the underlining (or some of it) continuous, all you have to do is:

(i) To insert the **.PO 0** command at the beginning of your file.

(ii) To enclose the expressions to be continuously underlined within a **^PY...^PY** command.

(iii) When you are ready to print, to give those final **R** and **P** commands.

Of course, when you turn your printer off, the margin will reset itself back to zero.

If you are satisfied with the results, you can delete your old WordStar file (OLDWS.COM). If you are not satisfied delete the one you have been playing around with (WS.COM), and rename OLDWS.COM as WS.COM. You will have lost nothing but some time and trouble.

Postscript: To any of you who are using an MS-DOS computer, the WINSTALL procedure for you is exactly the same as that I have described for the CP/M version, except that the starting addresses you will be given for RIBBON and RIBOFF are different (they are 793h and 798h). All the steps you have to take are just as I have given them.

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Anycode Patch

by Phillip P. Pflager

The January/February 1985 issue of the ***Portable Companion*** had a tech tip showing how to modify WordStar with a patch called Anycode. As it is shown on page 33 of the ***Portable Companion***, Anycode will not allow a nine to be entered.

When a nine is entered, it is changed into a two, resulting in the incorrect code.

The problem is the number used to compare, when it checks the code character, to determine if it is a number or a letter. In the right column, on page 33, there are two places that this comparison takes place. The **CPI 39H** should be changed to **CPI 3AH** in both cases to make the patch work correctly.

I had been using Anycode without any problem until I changed printers. When I tried to set the left margin with the **1BH 39H** that the new printer required, I found that the patch didn't work!

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Repairing Circuit Boards

by Alan Chattaway

I enjoyed reading the article by Obra W. Bliss (***FOGHORN*** January 1986, p. 13) about repairing circuit boards. Removing bad chips from a board can be difficult, but even more frustrating can be the problems you experience when you solder in a new part — seemingly making a perfect soldering job — and it won't work afterwards.

Very often these days, the more complicated circuit boards are "multi-layer". They not only have conductors on the top and bottom of the board, where you can see the quality of your soldered connection, but also have more conductors inside the circuit board where you can see nothing, but suspect a lot!

About 20 years ago a repairman taught me a tip which I have carried with me into the modern age. Those were the days when discrete components were soldered to metal lugs. Very often the factory would wrap the wires round the lug before soldering, creating something almost impossible to undo. The tip I was given was to not even try; just clip off the wires close to the body of the discrete resistor, capacitor or whatever, and use the wire stumps as new terminals around which to wrap the wires of the replacement part.

I have found it possible to use this tip in replacing integrated circuits as well as other modern parts. Just clip off the legs with a small, sharp cutter about halfway between the chip body and the circuit board. Use the cutter to slightly shorten the legs of the replacement chip, and sit the chip slightly offset from the old position so its legs lie against the leg stumps of the old chip. Now solder them one at a time to the stumps and you're done.

It won't look beautiful, but this repair is faster because you never unsolder the old chip, and it's usually more reliable, because you are not disturbing the factory soldering job between

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the old legs and the multiple layers of the circuit board. Nor are you putting mechanical stress on the board that might crack it, as sometimes happens while pulling old chips.

In many cases there is enough clearance that the new chip can sit a little high compared to the others. This makes installation even easier. The only places this repair technique might fail is where the circuits operate at high enough frequencies to make the design sensitive to the chip leg dress, or where the quarters are so cramped as to leave no working space on the chip side of the board.

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Go Soak Your Head!

by Alan Chattaway

In 1985, the ***FOGHORN*** printed a suggestion about spraying printer ribbons with WD-40 to extend their life. It sounded good, so I tried it. A few issues later a letter appeared warning that this was NOT a good practice, since WD-40 dries into a gummy film that clogs up machinery.

By then I figured I had discovered this for myself; my 2-1/2 year old Epson FX-80, previously running fine, was now very sluggish. Some pins weren't hitting the ribbon at all for the first few lines printed each day, and even after a few pages they remained faint. I can't say for sure that this was due to WD-40, but it sure looked suspicious!

I called Epson to ask the price of a new head, but their service technician suggested I first try soaking the head in something "not too strong" to remove whatever was plugging it up, without attacking the plastic components of the head.

Removing the Epson printhead is easy — you just flip a lever, lift the head off its carriage, and unplug the ribbon cable. Soaking the working tip of the printhead in rubbing alcohol for a few hours, however, had no effect. Then I decided to try something stronger, AND make the head operate while immersed, to shift whatever was causing the trouble.

I decided a gasoline-type solvent might work best. I used Ronsonol, the fuel for old Zippo lighters (which are probably unknown to the generation that "flicks its Bic"). For safety, I poured only a few millimeters depth of it into a small jar lid. I then detached the printhead from its carriage, while leaving its ribbon cable plugged in. Finally, I needed to get the head working while I dipped its tip into the liquid.

This was where I nearly blew everything. I decided to start the printer in its built-in self-test mode, which prints a repeating pattern. You do this by powering up with your fingers on two of the three buttons on top (I can never remember which two, so I always try all three possibilities until I get what I want).

Well, the self-test mode worked fine — but it runs the head carriage back and forth across the full printing line! At that moment the printhead was lying loose inside the printer; the carriage hit it and started to groan angrily. I quickly powered down; and fortunately no damage was done. I decided to try another approach to exercise the printhead pins.

To cut a long story short, if you ever need to do this, prepare a text file consisting of several pages of short lines (10 characters or less), and print that to exercise the printhead. The short text lines will keep the carriage at the left side, while you work with the printhead at the right. Make sure your file contains all the printable characters including underscores; that way you will be exercising all the pins in the printhead.

With the head working, I dipped its tip into the liquid in the jar lid and watched masses of black particles come out and float around. After two changes of liquid it looked like it might be clean, so I returned it to the printer. It ran fine — nearly like new — and has continued to do so ever since (that's several weeks now at the time of writing).

All of this took time — not to mention the toll on my nerves! The moral of this story is that either I buy a re-inker and a supply of the proper ink, or else I will be buying new ones from now on.

[I certainly hope this is safe from accidental ignition of the solvent. Lighter fluid is quite flammable — hexane or heptane... or something. David]

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WRITING TOOLS

If it's relevant to word processing, you'll find it here.

Keys to WordStar:

The Use of Macros

by Dick Ezzard

Why Use Macro Commands?

Macros make WordStar into a much more powerful tool than most people realize. To speed up your text editing automate strings of WordStar commands with a keyboard enhancer such as XtraKey, SmartKey, ProKey, ManyKey, QuikKey, SuperKey or the public domain FK.COM. Then the touch of a single key can cascade several WordStar commands, speeding up the performance of some desirable process which would be slow and cumbersome if you had to enter each command separately. (The WordStar command buffer can receive and store a number of commands faster than any human can type.)

Accuracy is an important benefit; preset strings of commands eliminate typographical errors when keying in complex sequences — no small advantage since mistakes made when entering complex WordStar commands can damage important files.

While the number of potential combinations is astronomical, you'll probably come up with a small set of favorites that you know well and use often. I keep these tools in "sets" which are appropriate to particular kinds of activities, one set for use during high speed text entry, another set for editing existing text. I find especially useful a set I use for rearranging mishmash text files.

Other Improvements

In addition to macros, there are two more ways to supercharge WordStar; using a RAM-disk, and eliminating some of WordStar's files. Both are discussed below.

Macro Overview

Let's take a look at some of my favorite macro types:

* Text entry keys (reversing two transposed letters, fetching special ruler lines, deleting a word to the left);
* Editing keys used when traversing a file (jumping cursor to the next paragraph, jumping a given number of lines, jumping a given number of paragraphs);
* Massive deletions (delete from cursor to beginning of file, delete from cursor to end of file, delete to end of paragraph, delete to beginning of paragraph, delete a block with retrieval option);
* Rearranging text (mark current sentence as a block, mark paragraph as a block, move block to cursor and swap, move line to end of file, move block to end of file, install several sorting bins, move block to bin);
* Indexing a file (copy line to end of file, copy block to top of file);
* Multiple file editing (view another file, add a note to another file);
* Other editing aids (tag marked block for later remarking, remark a tagged block)
* Miscellaneous keys (remove ghost lines from screen, print marked block, remove carriage returns not followed by line feeds);
* Formatting keys (reform current paragraph, underline a single word);
* Finally, supercharging WordStar: Using a RAM-disk to get the most out of these macros; eliminating WordStar's WSMSGS.OVR, MAILMRGE.OVR overlays; and removing WS.COM to make space on a disk.

Text Entry Keys

^KK^S^KB^S^KV^KH Reverse two transposed letters

This reverses two letters entered in transposed fashion, a common occurrence. For example, if you type the sequence "teh", you can use this key to correct it to "the". It may be useful during high speed text entry if this is one of your common mistakes. However, it is probably more trouble than it is worth since it requires that you position the cursor carefully just to the right of the two transposed letters.

The quickest ways to correct errors detected during text entry:

* If you are still in the word where the error occurred, use your deleting backspace to erase back to the error and retype the error.
* If the error is several words back on the same line, use **^A** to jump back to the beginning of the word which contains the error, then retype the whole word (unless it is a monster like Brzeniski or something) inserting it in front of the error, then use **^T** to delete the word with the error.
* If you notice an error back further on your screen, let it go till you go through on your proof read. Especially if you are going to do a spell check anyway.

^QS^KB ↵^KK^QB^KRR ↵ Fetch special ruler lines

This baby marks a tiny empty block, then reads in a file called R which is where you keep formatting stuff like special ruler lines. This is very useful to people who have to adjust their tabs and margin settings often, like scriptwriters and people who make up highly formatted tables and lists. Also useful if you edit directly on data base files which have to line up.

Your collection of ruler lines comes in as a marked block. Place the cursor on the example ruler line of your choice and do **^OF** to reset your margins and tabs. Then do **^KY** to erase the ruler line collection out of your current file until you need 'em again.

^A^T Delete word left

Another error corrector for use during text entry. Will "eat up" words to the left, as many times as you hit it. If you want to start over just a little way back, it comes in handy.

Editing Keys

^QF^N^N↵ ↵ Jump cursor to next paragraph

This actually does a find of two CR/LF line endings in a row, so it jumps to the next paragraph only if your standard format is to include a blank line between paragraphs. As a matter of policy it is quite useful to standardize a format for your own "manuscript" files, to work in conjunction with a collection of special function keys. Postpone matters of formatting for printing until the last thing you do to a file. When doing text entry and conceptual editing, leave justification off, and hyphen help off — those "features" will just slow you down.

After you have used this key once to jump to the top of the next paragraph, you can just hit **^L** to repeat and traverse your file paragraph by paragraph.

^QF^N↵ Jump N Lines

This is the front stub of a FIND command that looks for line endings. After hitting the key, you enter a number to tell WordStar how many lines to find, then hit the ↵ key again. For example, after hitting the defined function key enter **55**↵ and you will jump 55 lines, the normal length of a WordStar page. To go to the 10th page enter 550. After one use, if you want to jump the same number of lines use **^L**.

^QF^N^N↵ Jump N Paragraphs

Similar to the previous two keys, this one jumps paragraphs if they are delimited by double carriage return/line feed sequences. After hitting the defined key, enter the number and ↵. Repeat by **^L**.

Massive Deletions

There are two useful ways to make deletions so that the deleted material can be retrieved later if needed. The first is simply to shift the "deleted" material to the end of the file. At the end of the editing process, it's a simple matter to clean up the end of the file.

The second method: Set up a "delete" macro so that the file is first saved before the deletion takes place. Use another macro to yank back the earlier version if the deletion proves unsatisfactory. Both methods are described below.

^KK^QR^KB^KY Delete from cursor to beginning of file

Dangerous. It picks out a small section of text or data for retention, from a larger file. For example, say you have captured a log of messages from KAY*FOG and there is one in there you want to keep for future reference. You could use WordStar to browse down to the file until your cursor is at the top of the material you want to retain. Hit this key and everything above it in the file disappears.

This key is so dangerous that I have taken it off my keyboard, preferring to key in the command sequence myself when I really want to do a massive delete. An accidental delete from the bottom of a valuable file could be trouble, when you haven't yet backed up the fresh work.

^KB^QC^KK^KY Delete from cursor to end of file

This cleans out everything in a file below the material you want to retain. Another example of a useful application for massive deletion is boilerplating. You keep a monster file of all the paragraphs you might use in a business letter. Open a new file in which to write a current letter. Then read in the file which is your collection of boilerplates. Select the few paragraphs you want to use this time, move them to the top of the file, and delete the rest using this special function key.

Like its sister which deletes everything to the top of the file, I find this too dangerous to have around. I use the command sequence a lot, but don't want to be able to do it with one key! Would rather just type the commands as fast as I can.

^KB^QF^N^N↵ ↵^KK^KY Delete to end of paragraph

This will get everything from where the cursor is to the end of the paragraph, if you format your paragraphs with double ↵s as recommended. Note that it uses both block operations and find operations which are in separate incompatible parts of the WordStar overlay file, so your disk will be accessed a couple of times with this one. However, it is not bad with a RAM-disk. Note also that where your cursor lands after a find operation differs slightly between versions of WordStar.

Probably more trouble than it's worth. I get the same effect just as fast with a sequence of **^QY** to lop off the current line, followed by repositioning the cursor down and hitting **^Y** the required number of times.

Paul St. John notes that **^KB^B^KK^KY** does the same thing just as effectively.

^KB^QF^N^N↵B↵^KK^KY Delete to beginning of paragraph

Similar to the just preceding key, only the FIND operation searches with the **B** for backwards option to find the double ↵s which define a paragraph. Again, maybe not worth the trouble in most cases.

^KS^QP^KY ^KQYD^R↵ Deleting a block, with retrieval option

When performing a block-delete, it's nice to have the ability to yank back the deleted portion if you change your mind. These two macros give you just this ability.

The first macro, **^KS^QP^KY**, first saves the file in its pre-delete form before making the actual block deletion. If you don't like the result, and want to return to the previous version of the file, the second macro, **^KQYD^R**↵, takes you out of the file and back in so fast that the effect is nearly like yanking back the deleted text.

This nifty key was added to the collection by David Lewiston who says he picked it up from a Kaypro User's Group file.

Rearranging Text

^QF ↵B^D^D^KB^QF ↵ ↵^KK Mark current sentence as block

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Note that there are two spaces after each **^QF**. This key is dependent on the user being consistent in ending each sentence with two space characters. Does not work on the first sentence in a paragraph. Probably more of a stunt than anything useful.

^QF^N^N ↩B↩^X^X^QF^N^N ↩ ↩^KK   Mark paragraph as block

The lazy man's block marker. Provided your paragraphs are configured separately with double carriage returns as recommended, place the cursor anywhere in a paragraph and hit this key. The paragraph will be blocked for you, ready to move.

Some cautions: Won't work unless the paragraph is preceded and followed by double ↩'s, which is usually not the case for the first and last paragraphs in a file. And may not be the case at all if you don't format your manuscript files the same way I do. Then redesign of this key may be necessary.

Also, this key works with WordStar version 2.26. The positioning of the cursor after a find operation differs slightly for some other versions of WordStar so some tinkering will be required.

I don't use this one anymore because I am proficient enough at block marking to make better time just zinging the cursor up and down to mark blocks.

^KV^QV   Move block to cursor

Proceeding through a file you can mark and move blocks in sequence. After you mark the first block, you prowl around moving the cursor till you find where you want the block to light. Hit this key and the block comes to the cursor location, the cursor snaps back to where the block was and you are ready to mark your next block.

You may not wish to tie up a special function key for a command sequence as simple as **^KV^QV** which is easy to type.

^QS^KB^X^KK^QR^KV^QV^KH   Move line to end of file (hold off erase)

Provides an option on erasing lines. Marks the current line as a block and moves the marked line to the end of the file, for later consideration, instead of permanently obliterating the line, as with **^Y**. It then returns the cursor to where you are working.

This jewel is the prototype for text rearrangement. If your file is short enough to exist entirely in RAM, it is very quick indeed, and you can move several lines by hitting this key several times in quick succession.

Since each line goes to the end of the file, it appears under the one which was previously moved. Since you return to the place you just came from, you are on the very next line. So hit this key five times in a row and you move a five line paragraph to the bottom of the file.

About five or six lines seems to be the limit of WordStar's command buffer and you will be signaled that the buffer is full by a beep and the appearance of some !!!!! marks at the top of the screen. Not to worry. Just slow down a little and then you can move some more lines.

One of WordStar's stickiest pitfalls is the **^Y** erase key. David Giunti has an ingenious solution to this problem if you use a full-fledged keyboard redefiner: program this sequence to the **^Y** key so that the line is moved to the end of the file and WordStar never finds out that a **^Y** was entered! This can save the day for the heavy-handed typist, because holding **^Y** down for just a little too long results in WordStar deleting more than one line.

When you end your edit, use **^QC** to go to the end of file, and delete the really unwanted lines from the bottom of the file (with Block mark and delete). First you throw stuff in the wastebasket, later on you get a chance to reconsider before you irrevocably burn it up.

^QR^KV^QV^KH   Move block to end of file

Used after you manually mark a block, this will move that block to the end of the file and will bring you back to where you are working. This is a tremendous aid in the rearrangement of text.

For example, let's say you have a file which is a mishmash of notes on roughly the same subject, but in no particular order. Starting at the top of the file, mark blocks that you think belong in the middle of the file and use this key to send them to the end. When you get done with the first pass, go back to the top and go through again sending down stuff that you think belongs to the end of the file. You have just done a rough sort.

The stuff that "belongs to the beginning" you never touched so it is in the front of the file. The middle stuff went down first but was bumped back up to the middle when you sent the end stuff down on the second pass. Now you can do the same kind of sort on just the beginning stuff. Pretty soon you will see some kind of sequence.

Use this one as an alternative to deletion. As you edit a file throwing stuff to the bottom is equivalent to putting it in the wastebasket. Use this technique as the poor man's "UNDO" command.

^K1 ^K2 ^K3 ^K4 ^K5   Setting up sorting bins

All this key does is post a sequence of WordStar's place markers. This is preparatory to using the markers as targets for text block movements. Note that there is a space between each of the markers.

^Q1^KV^QV^KH ^Q2^KV^QV^KH   Move block to a bin

This set of keys moves marked blocks to predesignated place markers. I have these key definitions installed on some of my number keys. When I want to move text to more locations than just the top or bottom of the file, I set up place markers, then move through the file marking blocks as I go. After a block is marked (by the lazy man's block marker key if you like) just hit the appropriate dispatcher key and the block will be moved to the corresponding place marker and the cursor will snap back to where you are working.

Indexing a File

^QS^KB^X^KK^QR^KC^QV^KH   Copy line to end of file

This very useful key is sister to the key which moves lines to the end of file. This one sends a copy of the current cursor line to the end of file and leaves you ready to continue prowling the file.

Why copy lines to the bottom of the file? It is an easy way to make a table of contents for a text file. Every so often I signpost my manuscript files with headlines (usually using WordStar's double dot comment line format).

After a file is more or less complete I start at the top and place the cursor on each heading line, hit this key and send a copy to the bottom of the file.

After browsing through the entire file I find a collection of the headings at the bottom. When they are moved to the top they become a table of contents for the file and help me to jump down to a specific location by use of the **^QF** find operation, by showing me what I'm looking for.

^QR^KV^QV	Copy block to top of file

After marking a block, this key will send it to the top of the file. Often used to move a collection of redundant headings to the top of the file to serve as a table of contents for the file.

Multiple File Editing

These macros create "window shades". The first, View another file, uses O as the name for the Outline file relating to the project in progress. The second, Add a note to another file, uses N as the name of the file containing Notes, to which additional material can be added.

The same techniques can be used with other files, omitting O and N from the macros, and simply entering the wanted filename.

^KB ⮐^KK^QB^KRO ⮐	View another file

This key pulls down a "window shade" into a premarked block. The shade it pulls down is a file called, by convention, "O". I always keep my outline for my current project in a file called O so when I use this key I get to glance at my outline. It appears in the text file in which I am working and is distinguished from the current text by being premarked as a block. When I am done looking at the outline, I hit **^KY** and the outline goes away until I want to glance at it again.

^QB ⮐^KRN ⮐^KWN ⮐Y^KY	Add a note to another file

This allows writing to the tag end of a file different to the one you are working in. By convention the other file is called N. If I am working away and think of something not pertinent to my current project, or if I get a phone call and want to remember something about it, I make a note right in the file I am working in. Mark the note, whatever it is, as a block and then hit this key.

The file N will be read into the block at the top, and the file N will be written out again, as an entire block and therefore encompassing the new note. It happens so fast you won't see file N come in, just the blocked note will disappear. But when you later look at file N, all notes will be in there in the order you sent them out.

There must be a file N in existence before you use this key the first time, even if that file consists of only one ⮐.

You need not send just "odd notes" to that N file. I often use this key in culling operations, to run through a copy of a mishmash file and extract the paragraphs which pertain to a particular topic. After extracting all material on one topic, you can rename N, start a new N, and go through the mishmash to cull out notes on a second topic.

Other Editing Aids

^QB^KO^QK^K9^KH	Tag marked block for later remarking

This key gets around the fact that WordStar only permits one "active" marked block at a time. Sometimes you will want WordStar to be able to "remember" the current marked block while you do something with another block. This often arises for me when I read in an outline as a marked block, then want to move some text around to conform to the outline, but know I will want to erase the outline again in a little while.

Hit this key and the block markings are removed, but the "old block" is tagged with place marker 0 at the beginning of the block, place marker 9 at the end. I select these place markers because I often use the lower place markers, 1, 2, 3, 4, as targets for block moves when rearranging text. Thanks to Ed Greenberg of MicroPro for this "chipping off the old block" capability.

^Q0^KB^K0^Q9^KK^K9	Remark a tagged block

This key is the sister to the previous one. It remarks the previously marked old block, after you are done with block operations elsewhere in the file. If the old block was an outline or notes which have now served their purpose, they are now ready for a **^KY** delete.

Miscellaneous Keys

^KO^QE^QS^KB^QX ^QD^KK^QO^KO	Ghostbuster — clear ghost lines

or

^KO^QE^QS^KB^QX ^QD^KK^QO^KO^KH

This key marks the entire screen as a block, moving the cursor to the top left, then to the bottom right, but remembering where it was in the beginning and going back there after marking the block.

Once in a while when WordStar is being run fast, its screen display buffer will get caught with a duplicate line in it. These extra characters are not in the file, they are just in the stuff that WordStar is showing on the screen, and will disappear if the area they are in is marked as a block — an operation which modifies the contents of the screen buffer (on most systems).

To unmark the block, either hit **^KH** or hit the ghostbuster SFK a second time; it works as a toggle. The same idea can be used to delete an entire screenful, or to dump a screenful to the printer.

^KWP ⮐Y^KPP(ESC)^X	Print marked block

This will send a marked block to the file called P and then print the file called P. Unless you have included formatting dot commands in the block, the block will print as a page in WS's default format.

Note that if you use this one in conjunction with the pre-

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vious full screen block marking, you get what amounts to a screen dump to the printer at the touch of two keys, while in WordStar.

^QA^P^M^P^O^P^J↵↵GN↵ Remove CRs not followed by LFs

This is an example of the highly specialized filtering which can be accomplished from within WordStar. This was the answer to a guy who had to process some files which had been downloaded from a remote system in a format which did not include line feeds on many lines. By knocking off the odd carriage returns he was ready to reform the files in a more standard manner. This solution came from Mojo Jones of MicroPro.

Formatting Keys

^QF^N^N↵B↵^X^X^B Reform current paragraph

This will reform the paragraph you are working in. Often when editing text you will add new words, delete something so that the lines have changed in length and the paragraph needs reformation. This key will do it.

This presupposes you follow the convention to separate paragraphs with two CR/LF sequences (blank line between paragraphs).

This one is for WordStar version 2.26. Some versions of WordStar may put the cursor in a different location after a backwards Find operation looking for two CR/LFs. If so, the number of **^X**'s in the key definition may vary.

^A^P^S^F^P^S Underline a word

This puts the printer control codes **^S** for underscore at the beginning and end of a word just typed. A variation might be to put the underscore or boldface or alternate type size controls at the beginning and end of a marked block — left as an exercise for the reader. Thanks to Ted Silveira for this formatting key.

A note concerning formatting in general. This is often best left to be the final task before a file is output for printing. Such matters as justification, hyphen-help and underscoring or boldfacing, just slow you down during the "manuscript" drafting phases of word processing. My standard manuscript files are configured to be easy to work with, standardized so I can use certain special function keys I find useful (especially block marking and moving to place marker targets), and to jam as much context as possible onto the limited screen window.

It is only later that I bother to make a copy of the file which is then gussied up for display with printer control gadgets like underlining and boldfacing, centering, justification, etc.

Supercharging WordStar

Ram Disks and WordStar

Because WordStar was originally built for use on computers with limited memory space for holding programs, it consists of the COM file (the program proper) and some overlay files. The COM file holds the basic nut of WordStar, the most-used functions. The overlay files hold auxiliary routines and material portions of which are loaded into memory when needed. For example, many of the help menus are located in the file called WSMSGS.OVR.

Due to this overlay construction, WordStar makes frequent disk accesses. When you use a sequence of commands that come from different parts of the overlay file, you will be subjected to annoying disk accesses. The FIND (**^QF**) or FIND AND REPLACE (**^QA**) functions are incompatible with BLOCK MOVE (**^KV**) functions, and if you are continually finding, then block moving, then finding and moving again, you will be listening to a lot of disk accesses.

On top of that, although WordStar is very fast (especially on 8-bit CP/M computers), and can buffer a sequence of commands for later execution, as fast as you can type them in, it is NOT able to receive commands while an actual disk access, a read or a write, is going on. So although you can usually type ahead a sequence of commands for WordStar to perform in turn (no, you don't have to wait for each step to be completed before giving the next command) pauses for disk access will slow you down.

The solution to this disk access problem is a RAM-disk — either a portion of memory configured as a disk or an add-on piece of hardware. Macros really shine when you operate them on a RAM-disk.

Naked WordStar Runs Faster

Make yourself a lightweight working WordStar disk using only WSOVLY1.OVR and WS.COM. If you are accustomed to WordStar you don't need WSMSGS.OVR file which contains only help menus, command menus, and messages which are posted during execution of some commands.

Leaving out WSMSGS.OVR speeds WordStar operations considerably. After the first attempt to access that file, WordStar modifies itself to remember that the messages are not available and will not go to the disk for that particular kind of stuff during the rest of the session.

If you make a cribsheet of common WordStar commands and keep it and a WordStar book close to your computer, you will soon have the most-used commands well memorized. Continuing to rely on the menus will only train you to use menus. The practiced WordStar user no more looks at menus than a touch-typist looks at typewriter keycaps.

OK, the WordStar expert is down to two files for booting: WS.COM and WSOVLY1.OVR. If you really need all the disk space you can find, you can erase the MailMerge file MAILMRGE.OVR, and even erase WordStar itself! After WordStar is booted up and ensconced in RAM, use the WordStar command **Y** at the main WordStar menu and instruct the system to erase the file WS.COM. Now you are down to the nub: WordStar is in RAM and the one file it needs, WSOVLY1.OVR is on the disk. And you are still in the word processing business.

The ability to run WordStar without WordStar may just save your neck if a drive goes bad and you are forced to operate on a single drive temporarily. Also, if you ever back yourself into a corner and end up with a "disk full" error or a bad disk, and have to save some new work, you can create some emergency space by erasing that WS.COM file. (To erase WS.COM from within a file, use the **^KJ** command.) This trick should be especially useful to people who are operating with single density disks.

A final tip: WordStar is powerful. The power requires many commands to control, so many that the new user can be overwhelmed at first. Even the well versed WordStar user forgets commands he/she hasn't used for a while.

Take a clue from high performance sports: the best batters take the most batting practice. Before a WordStar session, take a few minutes to think ahead about what operations you will be using for the task in mind. Then take a few cuts at the ball before the game.

To groove any skill takes practice and what we know how to do best is what we practiced most recently.

It pays to warm up.

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Using Perfect Writer's Repeat Command with Numerals

by Clark Perry

Perfect Writer has two ways to cause a character or keystroke to be repeated almost as many times as you wish. You can type either the **ESC** key or **^U** (control U), followed by the number of times you want the next keystroke repeated. The number you type appears in the echo line after "Argument:", and if that is followed by any nonnumeric keystroke, it will repeat that number of times.

This is useful, e.g., to make an underline (example: if we wanted to underline the heading to this article). The sequence ↩ <**ESC**> **40** - produces an underline, and **ESC S** centers it. Moving the cursor back up one line and repeating **ESC S** would center each title itself.

As another example, the command **^U 35 x** produces the following line.

```
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

Now suppose you want to make a string of numerals, instead; say, a line of 40 zeroes. Giving the command **ESC 40 0** won't work, because the **0** is interpreted as part of the argument and Perfect Writer would want to repeat the NEXT keystroke 400 times! The way around this is to use the "quote character" command between the argument and the keystroke that you want repeated. So, the command **ESC 40 ^Q 0** does the trick and produces:

```
0000000000000000000000000000000000000000
```

Just how useful you find all this depends on your needs, of course, but keep in mind that the "quote character" command (**^Q**) can be very useful to get PW to accept literally keystrokes that it might otherwise misinterpret.

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WordStar Gems

by Thomas Kardos

Ruler Lines

If you wish to change the ruler width quickly without bothering to reset the left and right margins, move the cursor to a line of the desired text and press **^OF** (control OF).

A more elaborate way is to make a ruler file (called RULERS), with rulers of various widths and read it into your text with a **^KR X: RULERS** ↩ (where X is the drive the file is located on).

Any time you wish to change ruler specs, type **^QR** (go to very top of your document) to your assortment of ruler lines, press **^OF** with the cursor on the line of your choice then **^QC** and you are at the bottom of the file.

To create a nonprinting ruler for your file, type a nonprinting comment as follows:

- Enter 2 periods in columns 1 and 2.
- Press **^P** ↩ (carriage return)
- Type in your ruler line with choice of tabs (! and #) using the hyphen (-) in the second line, then ↩.

This is what is will look like on the screen:

```
..                                                   -
L- - -!- - - !- - -!etc                              R<
```

If uncertain, glance up on the screen and look at the current ruler line.

Indenting Paragraphs

There are many times you wish to indent paragraphs without resetting the ruler line.

^OG is your ticket. If you press **^OG**, the left margin will move to the first tab, and you can freely use **^B** and all text will reformat to that temporary left border.

If you wish an additional tab, **^OG^OG** twice or more.

The new margin remains in effect only until you press a ↩.

If you wish to maintain it, **^OF** and that's it!

Typing File Names

If you are a typical WordStar user, you will type a file name at least five times prior to being finished, to make revisions or reformat at printing time.

^R is a valid way of recalling the file name of the last file you saved when you receive the editing question:

```
FILENAME?
```

(Larry Fye contributed this one.)

You can also use **^R** when printing a file and get this question but in this case you get the name of the last file PRINTED. Always check before hitting ↩ to be sure you get the file name you want.

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RUN THE NUMBERS
All about spreadsheets.

Converting Perfect Calc Files to dBASE

taken from Capital KUG

Like the discovery of America, the atomic bomb, and many others of our blessings, the main secret is disclosed once you know that it can be done. With some helpful guidance from our resident dBASE expert Edie Harris, I can report that you can easily take spreadsheet data from Perfect Calc files and enter it without retyping into a dBASE file.

I had always thought of dBASE as a filer program, analogous to Perfect Filer, and having nothing to do with a spreadsheet and calculation program like Perfect Calc. It turns out, however, that dBASE will do simple arithmetic on its numeric entries as well as make logical selections that qualify it for much of the work of a spreadsheet.

Perfect Calc will do some mathematical operations that dBASE will not; trigonometric and logarithmic functions, squares and roots, for example. But my main application was to keep my checking account in order. I also keep track of the categories of tax deductible expenses evidenced by each check. For this, the ability to add, subtract, multiply, and divide was plenty.

I've always liked Perfect Calc. It thinks the way I do. I like the way you enter data, labels, and formulas; I like the ability to control column widths and justification, and the ability to enter information in one cell and then replicate it in a whole region.

But Perfect it ain't. There is no way to locate a particular entry other then by visual search. Worse than that, it gets distinctly buggy when you try to enter too much data or (particularly) too many formulas. You are led to believe that you can have up to seven buffers, each containing a spreadsheet with 52 columns and 155 lines, with proliferation of formulas tying them all together.

Just try it! Long before those theoretical bounds are reached, your program will bomb out.

Now take a look at dBASE. It has been expensive, but many books have been written on it. You'll never walk alone, and it may not be so expensive, since dBASE III is now coming out.

Once my data is transferred to dBASE, I will be able to locate any check with a simple search command, and get a sum of any tax category with another. If you have lots of important information in Perfect Calc files, knowing that this can be done will encourage you to get and learn dBASE.

Here's how to transfer the data:

* Call up the spreadsheet. Make sure all numerical entries are justified to the right and all labels to the left (these are the default settings, so they will be unless you've changed them). Mark the region of the spreadsheet which contains the data you want transferred, by marking one corner of the region with a "Mark-set" (**ESC SPACE**) and moving the cursor to the other. This will ordinarily exclude the titles and text at the top, and some calculations at the bottom.

* Then write it to a text file by using the command **^XP** (control XP). Do not hold the ^ key down while you type the **P**. That would act on the entire spreadsheet instead of the region you have designated. Do not type a ↵ (carriage return) (that would send it to the printer or lock up the program if you don't have one connected and turned on). Instead, give a filename of a file to which it is to be "printed", i.e., saved as a text file. You may give it any name you wish left of the period, but the extent (filetype) must be the letters **TXT**. Then after giving the new file its filename.TXT name, press ↵.

It is probably a wise precaution to call this file up in a word processor so as to count the number of spaces that are actually in each column. These spaces are critical to the process that follows, and may not correspond exactly to those in your Perfect Calc spreadsheet.

Next, enter dBASE with the command **DBASE**, and at the dot prompt, **CREATE** a file with headings and columns exactly corresponding to those of your Perfect Calc text file. Then APPEND the Perfect Calc data with the command: **APPEND FROM (filename).TXT SDF**.

Then examine the file with the **DISPLAY**, **TEXT**, or **BROWSE** commands. Despite your precautions, you may find you need to MODIFY STRUCTURE of the dBASE file to change column widths. Warning: MODIFY STRUCTURE causes dBASE to delete any records in the file but does not release the disk space. You may find it best to copy the structure to a temporary filename and delete the original. If you modify the structure of the empty file these will destroy the data you have just APPENDed. But the APPEND process is so easy and fast that it isn't much work to repeat that part of it.

There you have it; a block of data that you are already familiar with to manipulate, sort, index, calculate sums of all or nay particular part. It's a great way to get into a new program.

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Serious Mathematics with SuperCalc

by Michael Gemignani

When SuperCalc is mentioned, most users think of financial planning and keeping budgets, but even early versions of SuperCalc can be used to carry out some sophisticated mathematical procedures.

For what follows we distinguish a cell itself by enclosing its address in square brackets; thus, [A1] is the first cell of the

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first row, but A1 represents the contents of [A1].

Its replication feature makes SuperCalc exceptionally well-suited to handle both loops and recursive operations. Recall that a Fibonacci sequence is defined to be a sequence of positive integers such that once the first two terms are defined, any term beyond these is the sum of the two terms which precede it.

Such a sequence is easily presented on a spreadsheet by placing the initial two terms in [A1] and [A2], entering A1+A2 in [A3] and replicating [A3] down column A as far as one wishes.

One can create different sequences having the Fibonacci property in different columns and then experiment with arithmetic combinations of such sequences. One quickly concludes, e.g., as is easily proved, that any linear combination of such sequences whose coefficients are positive integers is another such sequence.

In Figures 1 and 2 we show a sample spreadsheet; Figure 1 displays the numerical entries while Figure 2 displays the formulas.

```
  ¦   A   ¦¦   B   ¦¦   C   ¦¦   D   ¦¦   E   ¦
 1¦       0       4       4       4      12
 2¦       1       7       6       8      21
 3¦       1      11      10      12      33
 4¦       2      18      16      20      54
 5¦       3      29      26      32      87
```

Figure 1

```
  ¦   A   ¦¦   B   ¦¦   C   ¦¦   D   ¦¦   E   ¦
 1¦ 0       4       B1-A1   A1+B1   3*B1
 2¦ 1       7       B2-A2   A2+B2   3*B2
 3¦ A1+A2   B1+B2   B3-A3   A3+B3   3*B3
 4¦ A2+A3   B2+B3   B4-A4   A4+B4   3*B4
 5¦ A3+A4   B3+B4   B5-A5   A5+B5   3*B5
```

Figure 2

The power function x^n = (x^(n-1))*x, x^0=1, is recursive as is the factorial function n!=n*(n-1)!, 0!=1. To find the nth power of x:

* Place x in [A1] and
* x*A1 in [A2].
* Then replicate [A2] down column A as far as desired.

The procedure for finding n! is slightly more complicated but still straightforward.

* Place 1 in [B1] and B1+1 in [B2].
* Replicate [B2] down column B.

This will place the sequence of positive integers beginning with 1 in column B.

* Place 1 in [C1] and C1*B2 in [C2].
* Then replicate [C2] in column C; n! will appear in [Cn].

We can now combine the results in columns A and C to obtain the value of the exponential function e^x, which, of course, can expressed as the power series:

1 + x^1/1! + x^2/2! + . . . + x^n/n! + . . .

We already have x^n in [An] and n! in [Cn]; therefore placing A1/C1 in [D1] and replicating in column D results in x^n/n! appearing in [Dn].

Place 1+D1 in [E1] and D2+E1 in [E2]; then replicate [E2] down column E. This gives consecutive terms for the series for e^x down column E.

In Figure 3 a display of the spreadsheet is provided showing the formulas described, adjusted, however, to allow for column headers. In Figure 4, the computations are carried out for x=2. A similar technique can be used to sum many other series.

```
  ¦    A    ¦¦    B    ¦¦    C    ¦¦    D    ¦¦    E    ¦
 1¦       2^N          N         N!    2^N/N!  E^2 SERIES
 2¦         2          1          1         2           3
 3¦         4          2          2         2           5
 4¦         8          3          6 1.3333333  6.33333333
 5¦        16          4         24 .666666667          7
 6¦        32          5        120 .26666667  7.26666667
```

Figure 3

```
  ¦    A    ¦¦    B    ¦¦    C    ¦¦    D    ¦¦    E  ¦
 1¦      2^N          N         N!    2^N/N!  E^2 SERIES
 2¦        2          1          1     A2/C2        1+D2
 3¦     A2*2       B2+1      C2*B3     A3/C3       D3+E2
 4¦     A3*2       B3+1      C3*B4     A4/C4       D4+E3
 5¦     A4*2       B4+1      C4*B5     A5/C5       D5+E4
 6¦     A5*2       B5+1      C5*B6     A6/C6       D6+E5
```

Figure 4

The spreadsheet can also be used to display limits. This is done in Figures 5 and 6 where the derivatives of x^2 and 1/x are computed for x=2. Note that the entry in column A takes the place of h in the traditional formula for the derivative and is made to approach 0 by repeated halving.

```
  ¦        A       ¦¦         B        ¦¦          C            ¦
 1¦        1                  5            -.1666666666666667
 2¦       .5                4.5                           -.2
 3¦      .25               4.25            -.2222222222222224
 4¦     .125              4.125            -.2352941176470592
 5¦    .0625             4.0625            -.2424242424242432
 6¦   .03125            4.03125            -.2461538461538464
```

Figure 5

```
  ¦   A   ¦¦            B             ¦¦           C            ¦
 1¦ 1          ((2+A1)*(2+A1)-4)/A1      ((1/(2+A1)-1/2))/A1
 2¦ A1/2       ((2+A2)*(2+A2)-4)/A2      ((1/(2+A2)-1/2))/A2
 3¦ A2/2       ((2+A3)*(2+A3)-4)/A3      ((1/(2+A3)-1/2))/A3
 4¦ A3/2       ((2+A4)*(2+A4)-4)/A4      ((1/(2+A4)-1/2))/A4
 5¦ A4/2       ((2+A5)*(2+A5)-4)/A5      ((1/(2+A5)-1/2))/A5
 6¦ A5/2       ((2+A6)*(2+A6)-4)/A6      ((1/(2+A6)-1/2))/A6
```

Figure 6

The spreadsheet can also be used to approximate the solution to a variety of differential equations. Consider, for example, the familiar growth equation:

***)   dy/dt = ry**

where y is a function of t. Using differentials:

$$**)\quad dy = rydt$$

Suppose that the initial value of y is 100 and r is .05 per unit time. Then, starting at t=0 when y(0)=100 and changing t only slightly, dy = (.05)(100)(dt).

If dt = .1, then dy = .5; therefore the new value of y at t=.1 is approximately 100.5.

We can then use this value of y at t=.1 as the starting point to compute y at t=.2; and, proceeding, similarly, we can then approximate the value of y for larger values of t. For whatever value of dt is chosen:

$$y(1*dt) = y(0) + (.05)(100)(dt)$$

Likewise:

$$y(2*dt) = y(1*dt) + (.05)*y(1*dt)*dt, \text{ and } y(n*dt) = y((n-1)*dt)) + (.05)*(y((n-1)*dt))*dt$$

Place y(0) = 100 in [A1]. We will let dt = .1. Place A1+.05*A*.1 in [A2]. Cell [A2] contains y(1*dt). Replicate [A2] down column A. The entry in [An] will approximate y((n-1)*dt). Figures 7 and 8 provide more complete displays with values of t and column headers.

```
  ¦     A      ¦¦       B      ¦
 1¦            t           y(t)
 2¦            0            100
 3¦           .1          100.5
 4¦           .2       101.0025
 5¦           .3    101.5075125
 6¦           .4 102.0150500625
```

Figure 7

```
  ¦     A      ¦¦       B      ¦
 1¦            t           y(t)
 2¦            0            100
 3¦        A2+.1  B2+.05*B2*.1
 4¦        A3+.1  B3+.05*B3*.1
 5¦        A4+.1  B4+.05*B4*.1
 6¦        A5+.1  B5+.05*B5*.1
```

Figure 8

We conclude this article by an example from logic. Spreadsheets can be used to display truth tables. SuperCalc has functions AND, OR and NOT; AND(Formula1, Formula2), for example, will have value 1 if both Formulas 1 and 2 have nonzero values. Implication can be expressed in terms of AND, OR and NOT; specifically, X=>Y iff NOT(AND(X,NOT(Y)). The binary Boolean functions can also be expressed using equations or inequalities. In particular, NOT(X) iff X=0, AND(X,Y) iff 0<X*Y; OR(X,Y) iff 0<X+Y, and X=>Y = 0=X*NOT(Y). Letting "~" denote "not", "*" denote "and" and "+" denote "or", Figures 9 and 10 display a truth table for:

$$(A*B) => (\sim A + \sim B)$$

Figure 11 gives an alternate set of formulas for the same truth table. The displays have been edited to fit in the appropriate space.

```
  ¦ A ¦¦ B ¦¦ C ¦¦ D ¦¦ E ¦¦   F   ¦¦      G       ¦
 1¦ A     ~A    B     ~B   A*B  ~A + ~B (A*B)=>(~A+~B)
 2¦ 0     1     0     1    0       1          1
 3¦ 1     0     0     1    0       1          1
 4¦ 0     1     1     0    0       1          1
 5¦ 1     0     1     0    1       0          0
```

Figure 9

```
  ¦A ¦¦ B ¦¦ C ¦¦ D ¦¦   E    ¦¦   F   ¦¦      G       ¦
 1¦A    ~A     B     ~B      A*B     ~A + ~B (A*B)=>(~A+~B)
 2¦0  NOT(A2)  0  NOT(C2) 0<A2*C2  0<B2+D2  0=E2*NOT(F2)
 3¦1  NOT(A3)  0  NOT(C3) 0<A3*C3  0<B3+D3  0=E3*NOT(F3)
 4¦0  NOT(A4)  1  NOT(C4) 0<A4*C4  0<B4+D4  0=E4*NOT(F4)
 5¦1  NOT(A5)  1  NOT(C5) 0<A5*C5  0<B5+D5  0=E5*NOT(F5)
```

Figure 10

```
  ¦   A   ¦¦    B    ¦¦    C    ¦¦    D    ¦¦    E    ¦
 1¦   A         ~A         B          ~B        A*B
 2¦   0      NOT(A2)       0       NOT(C2)   AND(A2,C2)
 3¦   1      NOT(A3)       0       NOT(C3)   AND(A3,C3)
 4¦   0      NOT(A4)       1       NOT(C4)   AND(A4,C4)
 5¦   1      NOT(A5)       1       NOT(C5)   AND(A5,C5)
  ¦      F       ¦¦          G           ¦
 1¦   ~A + ~B         (A*B)=>(~A+~B)
 2¦   OR(B2,D2)     NOT(AND(E2,NOT(F2)))
 3¦   OR(B3,D3)     NOT(AND(E3,NOT(F3)))
 4¦   OR(B4,D4)     NOT(AND(E4,NOT(F4)))
 5¦   OR(B5,D5)     NOT(AND(E5,NOT(F5)))
```

Figure 11

SuperCalc allows the contents of a cell to be recomputed based on the current contents. Placing NOT(A1) in [A1] produces an oscillator which can be used as a clock in modeling circuit diagrams. For more about this, see the Cortesi article listed in the references.

References:

1. Cortesi, D. E., "Dr. Dobb's Clinic: The Digital Spreadsheet", *Dr. Dobb's Journal*, No. 83 (September 1983), pp. 12-16.
2. Hayes, B., "Computer Recreations", ***SCIENTIFIC AMERICAN***,
3. Matheny, A., "Simulation with Electronic Spreadsheets", ***BYTE***, March 1984, pp. 411-14.

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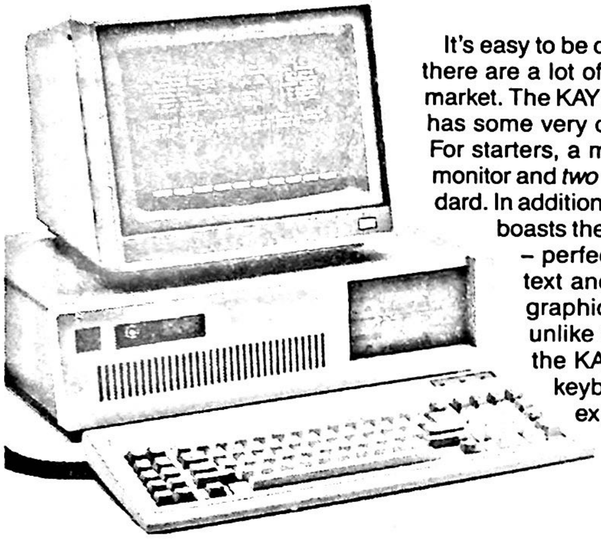

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MANAGING DATA

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A dBASE Program to Convert Your Microcomputer to an Input Terminal for a Professional Typesetting System

by Richard L. Hopkins

Being both a printer and a person addicted to fiddling with my Osborne, I have developed several routines which work well in converting my trusty Osborne into another input terminal for my typesetting system.

An item all printers deplore is typesetting membership lists. If you have membership information in a dBASE II file, there's no reason why you can't let dBASE II do the work for you — and for your printer.

I have set up a small data base to explain what goes on. I'll call my data base:

MAILLIST.DBF

```
LNAME,C,25
FNAME,C,20
ADDRESS,C,25
CITY,C,15
STATE,C,2
ZIP,C,5
MEMBNO,C,5
```

It is easy to get dBASE II to give you a report, but perhaps some folks are not aware that dBASE also will write that report in ASCII text format as a separate file on your disk. You tell dBASE to do it by naming the file with `SET ALTERNATE TO <FILENAME>` and then telling it when to do the writing with `SET ALTERNATE ON`.

The resulting text file can be transferred to the printer by modem, or maybe he could read your disk (that's how my shop prefers to operate).

Below is a simple program and the resulting text file:

```
PROGRAM:
* TEXTWRITE.CMD
* Written by Rich Hopkins
* Nov. 17, 1985
*
* Converts a data base into an ASCII file
*
SET TALK OFF
USE B:MAILLIST
INDEX ON LNAME TO NAMEDEX
* alphabetizes by last name
SET ALTERNATE TO B:TEXTFILE
* this names the file as TEXTFILE on drive B:
SET ALTERNATE ON
* this activates the text file
GO TOP
DO WHILE .NOT. EOF
  ? MEMBNO,LNAME,FNAME,ADDRESS,CITY,STATE,ZIP
* the string calls out columns of data
  SKIP
ENDDO
SET ALTERNATE OFF
* this closes out the text file
SET TALK ON
RETURN
```

The Resulting B:TEXTFILE.TXT:

```
67224 Abraham   Mary R.     678 Tryford Court          Georgetown  GA 31456
87666 Adams     Thomas P.   789 Westgate Plaza         Cincinnati  OH 24355
76556 Baum      Teresa M.   678 East Waterford Road    Columbus    OH 45666
34555 Honicker  Gerald G.   45 East Maple Avenue       Charleston  WV 25314
34556 Thomas    Terry R.    14 Marlboro Court          Morgantown  WV 26505
84456 Yeager    Charles G.  90887 University Avenue    College Pa  MD 21554
```

But one of the biggest problems remains to be solved by your printer — converting tabular ASCII material into something which can be easily composed on a typesetting device.

Typesetting systems don't fill up blank areas with spaces like WordStar does. And they have much difficulty in seeing or understanding your tab fields and converting them into typesetter tab fields.

That's where dBASE comes in handy.

Because of the **TRIM** function, all the trailing spaces can be easily removed, and through the use of pseudo typesetting commands (called mnemonics), you can let dBASE II tell the typesetting machine precisely what needs to be done. Your printer will love you for the help you've provided.

In the following example, I have used the mnemonic **\tb** to call out a tab field, and **\te** to exit the tabular typesetting mode — telling the typesetter it's the end of the line and to move on to the next line. The program is short, but it does the job very effectively. Here's how it looks:

```
* TYPESET.CMD
* Written by Rich Hopkins
* Nov. 17, 1985
*
* Converts a data base into an ASCII file which can be easily
* typeset by a printer who has equipment and works with
* mnemonics
*
SET TALK OFF
USE MAILLIST
INDEX ON LNAME TO NAMEDEX
* alphabetizes by last name
SET ALTERNATE TO B:MEMBLIST
* this names the text file as MEMBLIST on drive B:
```

⇨

```
SET ALTERNATE ON
* this activates the text file
GO TOP
DO WHILE .NOT. EOF
   ? ''\tb''+trim(MEMBNO)+''\tb''+trim(LNAME)+'', '';
+trim(FNAME)+''\tb''+trim(ADDRESS)+''\tb'';
+trim(CITY)+'', ''+trim(STATE)+'' ''+trim(ZIP)+''\te''
* the string above inserts mnemonics and trims the
* trailing blanks which are in the dBASE records.
   SKIP
ENDDO
SET ALTERNATE OFF
* this closes out the text file
SET TALK ON
RETURN
```

When this little program is executed, it automatically inserts all the necessary mnemonics, deletes all the trailing spaces, and gives your printer a file that's ready to go into his typesetting system with virtually no further "massage" work necessary to accomplish typesetting.

The Resulting B:MEMBLIST.TXT

```
\tb67224\tbAbraham, Mary R.\tb678 Tryford Court\tbGeorgetown, GA 31456\te
\tb87666\tbAdams, Thomas P.\tb789 Westgate Plaza\tbCincinnati, OH 24355\te
\tb76556\tbBaum, Teresa M.\tb678 East Waterford Road\tbColumbus, OH 45666\te
\tb34555\tbHonicker, Gerald G.\tb45 East Maple Avenue\tbCharleston, WV 25314\te
\tb34556\tbThomas, Terry R.\tb14 Marlboro Court\tbMorgantown, WV 26505\te
\tb84456\tbYeager, Charles G.\tb90887 University Avenue\tbCollege Pa, MD 21554\te
```

And this is how the typeset version looks:

67224	Abraham, Mary R.	678 Tryford Court	Gerogetown, GA 31456
87666	Adams, Thomas P.	789 Westgate Plaza	Cincinnati, OH 24355
76556	Baum, Teresa M.	678 East Waterford Road	Columbus, OH 45666
34555	Honicker, Gerald G.	45 East Maple Avenue	Charleston, WV 25314
34556	Thomas, Terry R.	14 Marlboro Court	Morgantown, WV 26505
84456	Yeager, Charles G.	90887 University Avenue	College Pa, MD 21554

Maybe you have dBASE II up and running but have not been aware of its most desirable ability to transport information out of a data base and into a format which is useful for other purposes. I have written programs which insert headings (based on repetitive data base information), changed typefonts, and all sorts of other enhancements with all functions being handled by a dBASE II command file.

It's fun, it's exciting, and most importantly, it's a procedure which turns tedious tabular matter into easily handled text at my typesetting terminal.

If you're a membership secretary or if you handle the production of an organizational newsletter, perhaps this procedure might be useful. Consult your typesetter regarding the process before you go to the trouble.

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Video dBASE II

by Randy Tincher

I have found that dBASE can support and use the video attributes of the Kaypro. Below you will find the code which can be typed into a .CMD file and executed to produce on-screen video results.

```
* Program..: VIDEO-KP.CMD
* Author...: Randy Tincher
* Date.....: 10/15/1985
*
set talk off
set echo off
set colon off
*
store chr(27)+''B0'' to inverseon
store chr(27)+''C0'' to inverseoff
store chr(27)+''B2'' to blinkon
store chr(27)+''C2'' to blinkoff
store chr(27)+''B3'' to ulineon
store chr(27)+''C3'' to ulineoff
store chr(27)+''B6'' to lastcursor
store chr(27)+''B7'' to botlineon
store chr(27)+''=8 '' to bottoggle
* Note ''=8 '' space, no typo!
store chr(27)+''C6'' to botlineoff
store chr(27)+''C7'' to botclear
store chr(26)        to cls
*
erase
@ 10,22 say inverseon+'' Inverse Video in dBase II ''+inverseoff
@ 12,21 say blinkon+'' Blinking Video in dBase II ''+blinkoff
@ 14,20 say ulineon+'' Underlined Video in dBase II ''+ulineoff
? lastcursor+botlineon
? bottoggle+''                    25th Status Line in dBase II''
? botlineoff
@ 20, 0 say ''Any Key Exits to CP/M...''
wait
? botclear+cls
quit
* EOF: VIDEO-KP.CMD
```

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PROGRAMMER'S

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TOOLBOX

Beginner's Notes on Assembly Language

by Robert E. Daniels

A. Using SUBMIT.COM to Assemble and Test Programs

I found the following SUBMIT file (filename: ASM.SUB) in John Lindsey's ***Introduction to CP/M Assembly Language***:

```
ERA  $1.BAK
ASM  $1.AAZ
LOAD $1.HEX
ERA  $1.HEX
$1
```

This assumes that Drive A holds SUBMIT.COM, ASM.COM, LOAD.COM, and the program you have written: filename.ASM (which is substituted for $1 in the SUBMIT file).

To start the process you enter, at the CP/M prompt:

A> **SUBMIT ASM FILENAME** ↵ (without extension)

Line 1 erases any .BAK versions of the program (written using the N mode of WordStar).

Line 2 causes your program to be assembled. The suffix (.AAZ) exercises three options: find the source code file on A:, create the .HEX file on A:, and don't bother to create a print file (.PRN) — i.e. put it on Drive Z.

Line 3 LOADs the .HEX file for your program, thereby creating a .COM file.

Line 4 erases the .HEX file which is no longer needed (with lots of little test files one quickly runs out of directory entries).

Line 5 evokes the .COM file you have written and assembled.

B. "Submitting" to Disaster

At first, copying simple programs out of the book, I found this SUBMIT file very handy. But when I started to use it on programs involving new ideas I was playing around with, all hell would break loose. Endless BDOS ERRORS! To make a long story short, I finally investigated with DU-V77 and realized that I had written routines that happily wrote all over the file directory (and, I suspect, the system tracks).

Once the SUBMIT file was started, I couldn't find a way to stop it. Hitting **RESET** just meant it picked up where it left off when I rebooted. Now I no longer use the SUBMIT file unless I'm just cleaning up some details and know that the listing will compile correctly. In the process I came to recognize the various error messages produced by ASM.COM. For example, in compiling the listing below called "QUICK.ASM" you will see:

```
A> ASM QUICK.AAZ
CP/M ASSEMBLER - VER 2.0
0117
000H USE FACTOR
END OF ASSEMBLY
```

The numbers vary (for this program 0117 is the address of the first unused location after the assembled program, and 000H refers to the amount of space used in the "symbol table area"), but if your program produces any extra lines at this stage, check out the meaning of the error messages listed in your manual and make corrections to your .ASM listing before proceeding further. It's also possible to evoke error messages from LOAD.COM (believe me).

C. A Practical Arrangement of Disks

Having trashed the working disk several times, I finally quit cursing and used FINDBAD to verify that there was no physical damage. Since then I've worked with a set of four disks (and, yes, I've still screwed up a few times).

Disk 1 is a FORMATTER. I use Media Master to reformat, then GENSYS4 (a version of SYSGEN that came with the OZROM chip) and SETUP1 (which locates the clock display, etc.). *[Note: The OZROM is a replacement monitor for the O-1, and is not required to use this technique. Ed]*

Disk 2 is the MASTER HACK DISK for playing with ASSEMBLY LANGUAGE. My version contains:

```
AUTOST.COM    ¦   versions of standard files
SETUP1.COM    ¦   or new files specific to my
MEMORIZE.COM  ¦   operating system
KEYBOARD.COM  ¦
GO.COM        ¦
TIME.COM      ¦
FK.COM        ¦
DDT.COM       )   a series of handy utilities
PIP.COM       )
SWP.COM       )
SHOW.COM      )
XDIR.COM      )
ASM.COM           WS.COM
LOAD.COM          WSMSGS.OVR
SUBMIT.COM        WSOVLY1.OVR
ASM.SUB
```

Disk 3 is the WORKING COPY of the HACK DISK. This is the one that gets trashed from time to time. It contains the same as Disk 2 plus whatever program files I'm writing. As soon as something works (or is a significant step forward) I copy it to: Disk 4 ASSEMBLY LANGUAGE FILE STORAGE, which I keep in Drive B. When I trash the working copy in A, I simply reformat it and PIP everything from the MASTER back on to it.

D. Stylistics in Writing Assembling Language Programs

The following two examples illustrate the variation possible in listing a program. Both programs clear the screen, display the string ABC on the screen, and end with a warm boot.

If you eliminate the blank lines in the second listing (they don't affect operation) or start them with a semicolon, and then compare the .COM files produced by each, using DDT,

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you will see that both listings produce identical files when assembled.

The first example I call "QUICK AND DIRTY":

```
        org     100h
        lxi     d,26
        mvi     c,2
        call    5
        lxi     d,lets
        mvi     c,9
        call    5
        jmp     0
lets    db      'ABC$'
```

The second example is "THE MODULAR APPROACH". It is obviously superior in longer listings with repeated calls to print characters (or control characters using ASCII values 0 through 31). Although it may seem awkward (and unnecessary in a very short program) it plants the seeds of documentation and logical program structure.

```
clear   equ     26
chrfun  equ     2
strfun  equ     9
bdos    equ     5
wboot   equ     0

        org     100h

        lxi     d,clear
        call    prchr
        lxi     d,lets
        call    prstr
        jmp     wboot

prchr:  mvi     c,chrfun
        jmp     bdos

prstr:  mvi     c,strfun
        jmp     bdos

lets:   db      'ABC$'

;end of ALTYRO.DOC
```

* * * * * * *

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Some Fun with RENUM

by Richard Lesnick

The MBASIC command RENUM can be very helpful when writing or modifying programs. When a program is larger than a couple of screenfuls, RENUM's lack of an upper range limit becomes challenging.

If there are segments that start at specific line numbers (such as subroutines) RENUMbering any lines below them will change them also. What was 7000 might now be 2310 and to get it back to 7000 means LISTing enough screens of line numbers to locate the new number and RENUMbering from there.

As the quantity of such segments increases, the hassle of RENUMbering becomes large enough to encourage putting off RENUMbering long after it becomes useful to do so to get more space for inserting new lines.

There is a handy way to simplify the RENUMbering procedure substantially. The nice feature of RENUM is that it changes all line number references except in REMarks to the new line #'s. By placing a temporary series of GOTO's at the beginning of the program, it is easy to find what a specific line number has changed to.

When I'm ready to RENUMber a program I type in a series of lines similar to these:

```
1  GOTO   1000 :'  1000
2  GOTO   2000 :'  2000
3  GOTO   3000 :'  3000
4  GOTO   3500 :'  3500
5  GOTO   4000 :'  4000
6  GOTO  10000 :' 10000
```

The number after the GOTO references the first line of a sequence that should maintain its number after RENUMbering, followed by a REMark with the same number. After RENUMbering the GOTO number will show the new line number and the REMark will retain its current and desired value.

Most programs start at line number 10 so line numbers below 10 are available for this purpose. Sometimes I'll start a program at 20 or 30 to leave more room for this technique.

To use this technique (as with most) it's important to be careful.

Before starting:

* Make sure there is a backup copy of the program on disk.
* Enter (or Merge, see below) the above style GOTO lines.

RENUM Procedure

1). **RENUM 10,10**
2). **LIST-10** (Notice the numbers on line 1)
3). **RENUM Right#,Left#** (e.g., RENUM 1000,720)
4). **LIST-10** (Notice the Numbers on line 2)
5). **RENUM Right#,Left#** (e.g., RENUM 2000,1450)
6). **LIST-10**

* Repeat until all of these GOTO #'s are once again the same as the REMark #'s.

7). **DELETE -LastGOTOSequence#** (e.g., DELETE -6)

Don't forget to LIST after each RENUM to get the line numbers for the next RENUM. It's easy to tell which line comes next because it's the first one with different line numbers.

If I'll be reusing this same sequence enough times I'll start a new file of just this GOTO sequence in ASCII (i.e., SAVE "NEWN1.BAS",A) and when needed MERGE (MERGE "NEWN1.BAS") it into the program in RAM. This can also be done with a text editor by READing in the File at the top of the program.

Make sure to DELETE the GOTO sequence lines before RUNning the program.

* * * * * * *

MBASIC Notes

by Tim Holtwick

If you are just getting interested in programming languages, you may feel that MBASIC is a good place to begin and you are probably right. I cut my programming teeth in MBASIC and I retain a fondness for the language. Here are some tips for the beginning programmer on getting started with MBASIC.

Booting MBASIC (Beginner)

Turn your computer on, place the MBASIC disk in the Drive A, and a blank, formatted disk in Drive B. Close all "hatches" and press ↩ (carriage return). The drives will whirl and you will soon see the MBASIC prompt OK displayed on the screen. The "OK" means that MBASIC is loaded and awaiting your instructions.

Set your ALPHA LOCK key on and type, (Punctuation belongs inside quotes):

```
10 REM THIS IS A SIMPLE PROGRAM ↩
20 PRINT ''HELLO WORLD'' ↩
30 END
```

If you make any mistakes, simply start a new line with the same line number and type the corrected statement as shown above. The new line number will replace the old. Periodically review your work by typing **LIST** ↩ on a new line.

Entering statements with line numbers tells the computer that you are entering a program. If you type in a valid keyword such as **LIST** ↩ you are telling the computer to execute the statement immediately.

In case you haven't already guessed, the program above will print HELLO WORLD on your screen. You execute the program by typing **RUN** ↩. Try it.

A **REM** statement is a do nothing statement that is included in a program to allow the programmer to read what is supposed to happen during the program execution. The computer ignores it during execution.

PRINT tells the computer to print the following information on the screen. **LPRINT** would send the output to the printer.

LISTing a program (**LLIST** for output to the printer) helps in debugging programs.

The **END** statement tells the computer to stop processing at the end point. Since MBASIC normally executes statements by consecutively following line numbers, we will see later that an END statement is necessary (while always good programming practice) to prevent complex programs from falling through to undesirable portions of code.

To save this little program to the program disk, type **SAVE "B:PROG1.BAS"** ↩. You can recall it later by typing **LOAD** or **RUN** followed by **"B:PROG1.BAS"** ↩. You will always have to have MBASIC hanging around when you work with your programs.

In this case it is booted up in the Drive A. If you take your program disk out to end a session, you will have to reboot MBASIC to restart a new session after turning the computer on. If you swap program disks in mid-session you will need to type **RESET** ↩ before proceeding in order to reload the disk directory. (This is like **^C** in CP/M and if you don't do it your disk will be set to read-only. If you try to save anything, you'll get a BDOS error and possibly not be able to recover).

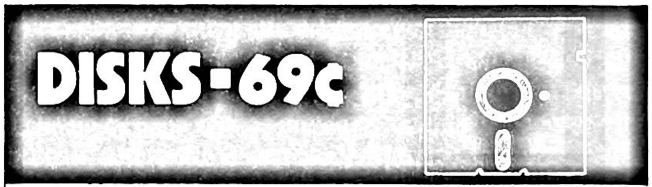
Fear not, although learning to program from an article is akin to learning to swim or ride a bicycle from a book. You are much less likely to fall off or drown. And, if you use copies of disks instead of originals, you won't destroy anything irreplaceable.

That's all for now. If you want, try adding:

```
15 PRINT CHR$(26) ↩
```

to the above program. What happens?

* * * * * * *



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FOG MEMBER LIBRARY NEWS

Library Notes

by Jack Brown

Most of the material released on the FOG/CPM series disks are brand new programs, and we will keep releasing new programs while the old library is being whipped into shape. A new printed directory is not yet available, but disk files are being sent to the FOG RCP/M systems containing the latest releases (the same as appears in the ***FOGHORN*** each month). These disks are available from the FOG office. FOG-CAT.C01 contains the latest CPM series disk releases. FOG-CAT.C02 has the remainder of the old series library disks. A new version of these disks will be released each month.

REMEMBER, when you order a disk from the FOG office, be sure to specify your disk format if you cannot read Osborne SSDD disks. To speed up disk order processing, all disks are shipped in Osborne SSDD format unless you specify otherwise.

-FOG/CPM.034: MBASIC programs & utilities

```
//CPM034 .DOC:
/APR/86  .   :
CURVECPM .XRF: Cross-reference of labels used in CURVEFIT.BAS
CURVEFIT .BAS: Fits values of X and Y to 25 different equations
CURVEXXY .TXT: Uses comma delimited, Lotus or SC .PRN files
NBR      .DOC: A MBASIC Preprocessor as discussed in the
NBR-MBAS .TXT: April, 1986 FOGHORN
NBR124   .ASC: A method of preparing MBASIC programs with an
NBR124   .BAS: editor and numbering them afterwards.
NBR124   .NUM: Examples are provided here
NBR124   .SYM:
NBR13    .ASC:
NBR13    .BAS:
NBR13    .NUM:
NBR13    .SYM:
```

-FOG/CPM.038: Osborne Executive and CPM+ programs

```
//CPM038 .DOC:
/APR/86  .   :
ALLCAPS  .PAS: Pascal include file
BD001    .ASM: Used by XECSCRN6
BD002    .ASM: Used by XECSCRN6
BD006D   .ASM: Used by XECSCRN6
BD009    .ASM: Used by XECSCRN6
CHNGNAME .PAS: Pascal include file
CURSOR   .PAS: Pascal include file
DATE     .PAS: Pascal include file
DECODE   .ASM: Used by XECSCRN6
DIAL     .PAS: Pascal include file
ENTRNAME .PAS: Pascal include file
EQUATES  .PAS: Pascal include file
ERASE    .PAS: Pascal include file
EXIST    .PAS: Pascal include file
GETINSTR .PAS: Pascal include file
GETYESNO .PAS: Pascal include file
HLDCUR   .ASM: Used by XECSCRN6
INSTALL  .ASM: Source code for INSTALL
INSTALL  .COM: Modifies PRTSCRN to run with any version BIOS
IOCHECK  .PAS: Pascal include file
KEYCPM   .ASM: Used by XECSCRN6
LINKIT   .SUB: Links files for XECSCRN6
MEMBER   .COM: Maintains a member data base for a computer
MEMBER   .DOC: user group. Written in Turbo Pascal for the
MEMBER   .PAS: Osborne Executive, but can be modified for
               other computers
MENU     .PAS: Pascal include file
MODEM    .LIB: Pascal include file
PHONE-16 .COM: Telephone and address filing system for use
PHONE-16 .DOC: with SmartModem compatible for autodialing
PHONE-16 .PAS: TURBO Pascal source for PHONE-16
PRINT    .PAS: Pascal include file
PRTSCRN  .ASM: Source code for PRTSCRN
PRTSCRN  .COM: A 'PrintScreen' function for the Executive
PRTSCRN  .DOC: Stays in memory and provides printer output
               from screen
SCRN1    .ASM: Used by XECSCRN6
SIGN-OFF .PAS: Pascal include file
SNDESC   .ASM: Used by XECSCRN6
STATUS   .PAS: Pascal include file
VIDEO    .PAS: Pascal include file
XECSCRN6 .ASM: Demonstrates screen functions on the Executive
XECSCRN6 .COM: All .ASM files on this disk are part of this pro-
XECSCRN6 .DOC: gram
Z80      .LIB: Used by XECSCRN6
```

-FOG/CPM.039: SuperCalc applications

```
//CPM039 .DOC:
/APR/86  .   :
CASHFAX  .DOC: SC2 Cash journal for small business
CF-A40   .XQT: eXecute file to sort 40 check entries
CF-A50   .XQT: eXecute file to sort 50 check entries
CF-A60   .XQT: eXecute file to sort 60 check entries
CF-A90   .XQT: eXecute file to sort 90 check entries
CF-B40   .XQT: eXecute file to sort 40 check entries
CF-B50   .XQT: eXecute file to sort 50 check entries
CF-B60   .XQT: eXecute file to sort 60 check entries
CF-B90   .XQT: eXecute file to sort 90 check entries
CF-F40   .XQT: eXecute file to sort 40 check entries
CF-F50   .XQT: eXecute file to sort 50 check entries
CF-F60   .XQT: eXecute file to sort 60 check entries
CF-F90   .XQT: eXecute file to sort 90 check entries
COST86/M .CAL: Personal budget expense tracking with SC2
COST86/M .DOC: Manages income and expenses
FORM-A   .XQT: eXecute file to build expense code template
FORM-B   .XQT: eXecute file to build expense code template
FORM-F   .XQT: eXecute file to build detailed expense code
               template
```

HEARING .CAL:	Audiogram comparison spreadsheet using
HEARING .DOC:	Lookup and IF expressions
NETWORTH .CAL:	SC 1.05 Personal net worth calculation
NETWORTH .DOC:	Allows you to balance your assets
REIA .CAL:	SC2 Real Estate Investment Analysis
REIA .DOC:	For commercial property investment
REIA-S .CAL:	Sample spreadsheet
TABLE1 .DOC:	Prediction table for HEARING loss
TABLE2 .DOC:	Print file for HEARING
TABLE3 .DOC:	Display of HEARING table
TABLE4 .DOC:	Display of HEARING table

-FOG/CPM.040: Z80 — 8080 translators

//CPM040 .DOC:	
/APR/86 . :	
TEST1B .ASM:	8080 test file
TEST1B .Z80:	Zilog Z80 test file
XLATE5 .AQM:	8080 source for XLATE5
XLATE5 .COM:	Takes 8080 Intel source and creates a Zilog
XLATE5 .DOC:	Z80 file ready for assembly with M80
XLT80 .ASM:	8080 source for XLT80
XLT80 .COM:	Translates Zilog Z80 to Intel 8080 code
XLT80 .DOC:	Flags intrinsic Z80 opcodes and prints line numbers
XLTZ80 .COM:	Translates Intel 8080 to Zilog Z80 code
XLTZ80 .DOC:	
XLTZ80 .Z80:	Z80 source for XLTZ80

-FOG/CPM.041: Osborne 1 graphics programs

//CPM041 .DOC:	
/APR/86 . :	
AL-LOGO .ASM:	Assembly language graphics routine
AL-LOGO .COM:	Prints logo on screen
ALGRAPHS .ASM:	Assembler source for ALGRAPHS
ALGRAPHS .COM:	Displays 0-1 graphics set on screen
AUTOCHG .SUB:	Replace AUTOST graphics with GFX memory
AUTOREP .BAS:	Memory load for AUTOST gfx
AUTOST .COM:	Used with GFX program
BATS .GFX:	
GFX .BAS:	GFX – a total graphics editor for screen/printer
GFX .COM:	Compiled GFX.BAS
GFX .DOC:	Help and instructions
GFX1 .GFX:	With this program you can create pictures on
GFX2 .GFX:	your screen, save them to disk, print them,
GFX3 .GFX:	and make your own 'slide shows'
GFXDATA .CEC:	GFX main data file
GFXTITLE .CEC:	GFX big letter data file
OLD/NEW .BAS:	Converts GFX files to MBASIC format
RIENDEER .GFX:	
SANTA .GFX:	
SHIP .GFX:	
SLIEGH .GFX:	
SUPER .GFX:	
TRAIN .GFX:	All .GFX files are saved graphic demo pictures
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WELCOME .GFX:	
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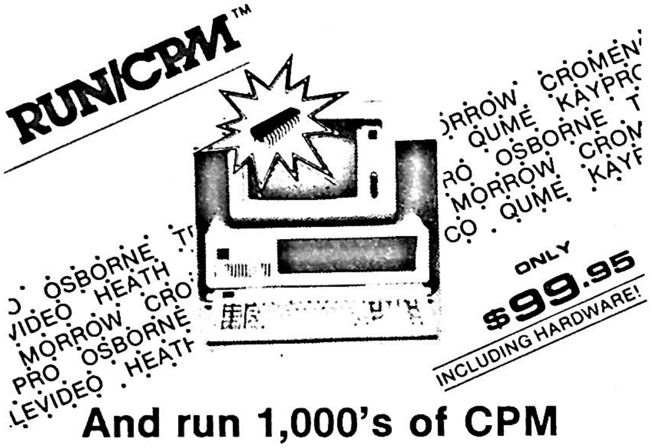

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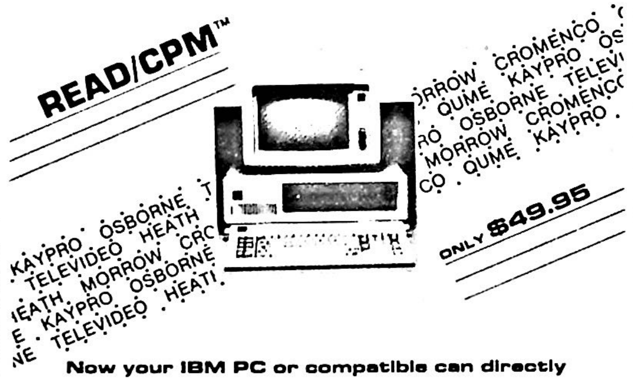

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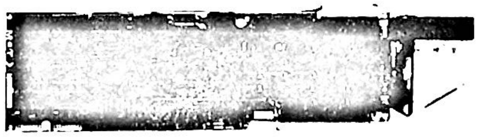

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OSBORNE VIXEN

A Software Numeric Keypad for the Vixen

by Paul A. Lehman

Having been frustrated in locating a stand-alone numeric keypad for my Vixen, I decided to take a different approach and attack the problem with software.

My assembly language programing skills are at best novice level, but the program works, and I am very pleased at the results.

With this program, I can now enter data into SuperCalc templates or BASIC programs with the same speed and convenience that a stand-alone keypad would offer.

KEYPAD.ASM is listed below. It and KEYPAD.COM have been submitted to the FOG library and is on FOG/CPM.035.

If you do not have access to the library, type in this listing using WordStar with the **N** (non-document) mode. Save it to a disk which contains the ASM and LOAD programs. Assemble the program by typing **ASM KEYPAD.** To convert it to a COM file, type **LOAD KEYPAD.**

If you are unfamiliar with this procedure, study your CP/M manual, or get a book dealing with 8080 or Z80 assembly language programing procedures.

To use this routine, at the A> type **KEYPAD**. At the return of the A> the program is installed. Now, the following keyboard letters will be translated to a numeric keypad:

r t y		1 2 3
f g h	=	4 5 6
v b n m		7 8 9 0
KEYBOARD		KEYPAD

If you want the lower case letter, press the **DEL** key once, then the letter. If you want the delete, press the **DEL** twice. Upper case letters, and all other keys are unaffected. Finally, add dry transfer rub-on numbers to the keys to outline the keypad.

To remove this routine, you must either reset the computer by pressing the button on the back panel, or simultaneously press **^-SHIFT-DEL** (where ^ means control) which will also cold boot the CPU. When time permits, I plan to write a second program to remove the keypad without having to reboot the computer.

I have tried to fully document every operation in the listing below so that you can figure out how it works.

Essentially, the program transfers the keypad subroutine into the CTRL-Function key memory buffer (located at E178 hex), replaces the BIOS console input call (E747 hex) to call the subroutine, and then rebuilds the CTRL-Function key and arrow key table. The call to F106 hex is the ROM routine for reading the keyboard (which is masked by the video memory). Since the keypad routine is placed in the CTRL-Function key memory buffer, the remaining memory space for the function keys is limited to 37 characters. I feel that this is a small sacrifice for the price of a built-in keypad.

Some day I plan to add this routine directly into the CP/M BIOS so that it is installed whenever the system is loaded into memory. When I do, I'll let you all know.

One last thought, since this program does reroute a specific call in the BIOS at a specific memory location (E747 hex), any changes that have already been performed to your CP/M system, or if different versions of the CP/M system have been distributed for the Vixen, you may have to find this location in your BIOS and adjust the ASM listed call to make the keypad work.

KEYPAD.ASM listing:

```
;         ¦================================================¦
;         ¦               *** KEYPAD V 2.2 ***             ¦
;         ¦                                                ¦
;         ¦ TO CONVERT LOWERCASE KEYS TO A NUMERIC KEYPAD  ¦
;         ¦ FOR THE OSBORNE 04 VIXEN ONLY.                 ¦
;         ¦                                                ¦
;         ¦ NOVEMBER 28, 1985                              ¦
;         ¦ BY PAUL A. LEHMAN                              ¦
;         ¦ 19207 60TH W. #4, LYNNWOOD, WA.  98036         ¦
;         ¦                                                ¦
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;         ¦================================================¦
;INFORMATION FOR THE ASSEMBLER.

DATA1   EQU     0164H             ;START OF 1ST LIST.
LOCAT1  EQU     0E178H            ;LOCATION OF SUBROUTINE.
BYTES1  EQU     94D               ;# TO SEND.

LOCAT2  EQU     0E747H            ;LOCATION OF CONSOLE INPUT.

DATA3   EQU     01C2H             ;START OF 2ND LIST.
LOCAT3  EQU     0E13EH            ;MEMORY LOCATIONS OF FUNC
                                  ;KEYS.
BYTES3  EQU     30D               ;# TO SEND.

DATA4   EQU     01E0H             ;START OF 3RD LIST.
LOCAT4  EQU     LOCAT1+BYTES1+1   ;BUFFER FOR FUNCTION KEYS.
BYTES4  EQU     14D               ;# TO SEND.

CONIN   EQU     0F106H            ;ROM SUBROUTINE FOR KEY
                                  ;INPUT.
BDOS    EQU     0005H             ;BIOS WARM BOOT SUBROUTINE.
ONE     EQU     LOCAT1+ 59D       ;INFO FOR KEYPAD SUBROUTINE.
TWO     EQU     ONE   + 03H
THREE   EQU     TWO   + 03H
FOUR    EQU     THREE + 03H
FIVE    EQU     FOUR  + 03H
```

⇨

```
SIX     EQU     FIVE  + 03H
SEVEN   EQU     SIX   + 03H
EIGHT   EQU     SEVEN + 03H
NINE    EQU     EIGHT + 03H
ZERO    EQU     NINE  + 03H
LCDR    EQU     ZERO  + 04H

;DONE WITH THAT, LETS GET TO WORK!

        ORG     0100H           ;A NICE PLACE TO START.
        JMP     MOVE1           ;GET TO WORK.

        DB      0AH,0DH,'KEYPAD V 2.2'
        DB      0AH,0DH,'(C) 1985 by Paul A. Lehman$'

;FIRST, TRANSFER THE SUBROUTINE INTO FUNCTION KEY BUFFER.
;0E0B = LDIR IN Z-80 LANGUAGE, A NIFTY MOVER OF DATA.

MOVE1   LXI     H,DATA1         ;START OF 1ST LIST.
        LXI     D,LOCAT1        ;SEND IT TO 1ST LOCATION.
        LXI     B,BYTES1        ;# OF BYTES TO SEND.
        DB      0EDH,0B0H       ;MOVE IT NOW!

;NOW LOAD THE REROUTE FOR THE CONSOLE INPUT TO THIS SUBROUTINE.

MOVE2   LXI     H,LOCAT1        ;GET START OF SUBROUTINE.
        SHLD    LOCAT2          ;MOVE IT INTO THE BIOS.

;NOW PUT IN THE NEW FUNCTION KEY MEMORY LOCATIONS.

MOVE3   LXI     H,DATA3         ;START OF 2ND LIST.
        LXI     D,LOCAT3        ;SEND IT TO 3RD LOCATION.
        LXI     B,BYTES3        ;# OF BYTES TO SEND.
        DB      0EDH,0B0H       ;MOVE IT NOW!

;NOW PUT BACK IN THE FUNCTION & ARROW DEFINITIONS.

MOVE4   LXI     H,DATA4         ;START OF 3RD LIST.
        LXI     D,LOCAT4        ;SEND IT TO 4TH LOCATION.
        LXI     B,BYTES4        ;# OF BYTES TO SEND.
        DB      0EDH,0B0H       ;MOVE IT NOW!

;LETS SEND A MESSAGE TO THE SCREEN.

MSSG    LXI     D,0104H         ;LOCATION OF MESSAGE.
        LXI     B,0009H         ;SELECT BDOS WRITE FUNCTION.
        CALL    BDOS            ;WRITE IT NOW!

;ALL MOVED IN, NOW LETS GET BACK TO THE REAL WORLD . . .

DONE    LXI     B,00H           ;SELECT BDOS RESET FUNCTION.
        JMP     BDOS            ;AND AWAY WE GO.

;THE KEYPAD SUBROUTINE WILL LOOK LIKE THIS IN MEMORY . . .
;(THIS IS ALSO THE START OF THE 1ST LIST TO MOVE.)

START   CALL    CONIN           ;CALL CONSOLE INPUT FUNCTION
                                ;IN ROM.
        CPI     7FH             ;CHECK FOR THE DELETE KEY
                                ;INPUT.
        JZ      LCDR            ;IF YES JUMP TO LOWER CASE
                                ;DRIVER.
COMP    CPI     72H             ;IS IT r?
        JZ      ONE             ;IF YES JUMP TO 1.
        CPI     74H             ;IS IT t?
        JZ      TWO             ;IF YES JUMP TO 2.
        CPI     79H             ;IS IT y?
        JZ      THREE           ;IF YES JUMP TO 3.
        CPI     66H             ;IS IT f?
        JZ      FOUR            ;IF YES JUMP TO 4.
        CPI     67H             ;IS IT g?
        JZ      FIVE            ;IF YES JUMP TO 5.
        CPI     68H             ;IS IT h?
        JZ      SIX             ;IF YES JUMP TO 6.
        CPI     76H             ;IS IT v?
        JZ      SEVEN           ;IF YES JUMP TO 7.
        CPI     62H             ;IS IT b?
        JZ      EIGHT           ;IF YES JUMP TO 8.
        CPI     6EH             ;IS IT n?
        JZ      NINE            ;IF YES JUMP TO 9.
        CPI     6DH             ;IS IT m?
        JZ      ZERO            ;IF YES JUMP TO 0.

        RET                     ;NOPE, NONE OF THE ABOVE,
                                ;DON'T CHANGE ANYTHING.

;NOW CHANGE IT TO THE DESIRED NUMBER.

1       MVI     A,31H           ;CHANGE IT TO 1,
        RET                     ;THEN RETURN.
2       MVI     A,32H           ;CHANGE IT TO 2,
        RET                     ;THEN RETURN.
3       MVI     A,33H           ;CHANGE IT TO 3,
        RET                     ;THEN RETURN.
4       MVI     A,34H           ;CHANGE IT TO 4,
        RET                     ;THEN RETURN.
5       MVI     A,35H           ;CHANGE IT TO 5,
        RET                     ;THEN RETURN.
6       MVI     A,36H           ;CHANGE IT TO 6,
        RET                     ;THEN RETURN.
7       MVI     A,37H           ;CHANGE IT TO 7,
        RET                     ;THEN RETURN.
8       MVI     A,38H           ;CHANGE IT TO 8,
        RET                     ;THEN RETURN.
9       MVI     A,39H           ;CHANGE IT TO 9,
        RET                     ;THEN RETURN.
0       MVI     A,30H           ;CHANGE IT TO 0,
        RET                     ;THEN RETURN.
        NOP                     ;HO HUM, JUST FOR FUN.

;INSTEAD OF THE NUMBER, GIVE ME BACK THE LETTER . . .

LCD     CALL    CONIN           ;GO GET THE NEXT KEY.
        RET                     ;GO BACK WITHOUT CHANGING IT.

;THIS IS THE END OF THE KEYPAD SUBROUTINE.

;NOW TO REBUILD THE CTRL-FUNCTION KEY BUFFER AREA . . .
;(THIS IS THE SECOND LIST TO MOVE.)

        DB      0D7H,0E1H       ;NEW FUNCTION KEY LOCATIONS.
        DB      0D8H,0E1H
        DB      0D9H,0E1H
        DB      0DAH,0E1H
        DB      0DBH,0E1H
        DB      0DCH,0E1H
        DB      0DDH,0E1H
        DB      0DEH,0E1H
        DB      0DFH,0E1H
        DB      0E0H,0E1H

        DB      0E1H,0E1H       ;NEW ARROW KEY LOCATIONS.
        DB      0E2H,0E1H
        DB      0E3H,0E1H
        DB      0E4H,0E1H

        DB      0E5H,0E1H       ;NEXT EMPTY SPOT.

;PUTTING BACK IN THE CTRL-FUNCTION KEY DEFINITIONS AS . . .
;(THIS IS THE 3RD LIST TO MOVE.)

        DB      30H
        DB      31H
        DB      32H
        DB      33H
        DB      34H
        DB      35H
        DB      36H
        DB      37H
        DB      38H
        DB      39H

;PUTTING BACK IN THE ARROW KEY DEFINITIONS (AS WITH CP/M) . . .

        DB      0BH
        DB      0CH
        DB      0AH
        DB      08H

;WHEW, ALL DONE

        END
```

• • • • • • •

OSBORNE EXECUTIVE

Executive Tips and a Request

by Robert Schine

I. How to Make Backup Copies Using Only One Drive!

Confronted recently with one balky disk drive, and running the computer from Drive B (TAB to boot it), I devised a method for copying files from one disk onto another. It involves using SID (presumably, DDT will do the same trick on other CP/M machines) to read the file into memory, and then, after swapping disks in B, to write that same file to the new disk. Indeed, it works, and is very simple:

1. Load SID.COM from the Advanced Utilities Disk, and wait for the # prompt.
2. Insert the data disk with the file to be copied.
3. At SID's # prompt enter:

R¦filespec¦

(You can combine steps 1 through 3 if, by some fluke, SID is on the data disk; then at the A prompt, you type:

SID filespec

This accomplishes the same thing as the **R** command, loading the file into memory.)

4. Swap disks, inserting the backup disk and at the # prompt, type:

W¦filespec¦

That's all there is to it. (It is not necessary to indicate the beginning and ending memory addresses in the SID command.) A copy of the file is written to the new disk.

II. A TURNKEY Program

For many months now, I have been using the equivalent of a TURNKEY program on my Executive. It is actually not a program at all, but a combination of .COM and .SUB files which work like this:

I have a number of .COM files that do nothing but load a Special Function Key (SFK) set. (See James Bode's program for making such files in the September 1984 ***FOGHORN***, pp. 70-1) and mine in the December 1984 ***FOGHORN***, pp. 72-3, on how to make them quickly.)

This SFK set contains nothing but the names of various .SUB files for setting up the computer for a work session. One, for example, called WRITE.SUB looks like this:

```
keyws
ws 1$
keycpm
```

The SFK set contained in the file KEYCP/M.COM is also the one on the system tracks of my boot disk.

One more preliminary: when running Submit files, it is a nuisance to have to type **SUBMIT WRITE**. Too many letters. One can use SETDEF.COM (on General Utilities Disk) to set the Operating System to search not only for .COM files, which is the default setting, but for .COM and .SUB files. Then all you have to do is enter **WRITE**.

Furthermore, you might, instead of crowding your WordStar disk, want to keep that WRITE.SUB file on the data disk. But, since it would be a nuisance to have to enter **B:WRITE**, specifying the drive, use SETDEF to set the Operating System to search both drives.

(One more tip: SETDEF makes these changes in memory only; you can modify the system file itself — see ***FOGHORN*** Vol. IV, No. 7, pp. 58-9 — to instruct the Executive to search all drives for all file types and thus eliminate the need to run SETDEF when you boot.)

So, in this example, I have defined SFK #1 as **WRITE**. At the A> prompt, I hit that key, enter the name of the WordStar file I want to work on (parameter $1 in the .SUB file) and hit ↵ (carriage return).

The first command in the .SUB file loads a different function key set KEYWS.COM, one which I use for writing. Then, since my WordStar is patched to log automatically to Drive B, WordStar skips the opening menu (that's the effect of entering WS file name at the Operating System level) and opens the file on Drive B.

That's it.

When I exit from WordStar, KEYCP/M is loaded again,

⇨

ready for the next program to be run TURNKEY style. These, for example, are some of the SFK settings in KEYCP/M:

1 — write ¦filespec¦	as above
2 — write↵	loads WS to the opening menu
3 — write draft↵	opens WS file draft on Drive B
4 — erase b:*.bak↵	
5 — pearl↵	runs .SUB file Pearl
6 — copy↵	runs .SUB file for archiving
7 — spelling b:¦filespec¦	runs SpellGuard on a file
etc.	

Everyone will have their own most useful settings. It may be unelegant (I think the hacker's term is "dirty"), yet it is a workable method of customizing your computer.

Now a challenge to you programmers: write a new version of James Bode's program (see above) to create .COM files which not only set up the SFK's but also, using the Exec's window capability, create and freeze a bar across the bottom of the screen displaying the SFK definitions (in abbreviated form), which would change, of course, whenever a new SFK set was loaded.

III. Memory-Mapped Video

WordStar with memory-mapped video on the Exec still seems to be able to elude me. I have tried installing the patch listed in the August 1985 ***FOGHORN*** (pp. 55-6), including the correction published the following month, and, each time with no success.

Everything seems to work as long as I don't actually try to edit a file. Then, at some point, the screen — and WordStar — go berserk. I cannot imagine that the one other patch I have installed, the short patch to log to Drive B, hidden away at 340h, could be interfering. Who has found a solution for the Exec?

[FOG/CPM.004 has WSEXPATC4.ASM which will work correctly. Jack]

* * * * * * *

ZORBA

Making the Switch — to 220V

by Paul O'Nolan

Unlike some portable computers, (e.g., Kaypro, Compaq), the Zorba can be operated at either 110V or 220V. Unfortunately, you must open up the Zorba to make the switch. First, unplug the computer! Then:

1. Remove all screws, including those under the handle covers.
2. Stand the unit face down and lift the case off gently.
3. Attached to the right hand side of the chassis, as you face the unit, is the power supply board. This is what concerns us.
4. Unplug the disk drives and remove them for access.
5. Locate the jumper plug on the power supply board. Look for two pins sticking up. One is labeled 110V and the other 220V. Move the plug onto the 220V pin, firmly.
6. Reassemble.

That's all there is to it. ALL? You're thinking what I'm thinking! Why can't we just have a switch we can get at? Well, I don't know for sure. A computer isn't like an electric shaver which just SOUNDS FUNNY at the wrong voltage. It could be that you'd FRY things if you forgot to adjust the switch.

Have you ever heard a Zorba power supply go WHUMP! I have, it smells terrible, (I had a short). If you open your Zorba, check the condition of the standoffs used to hold the boards off the chassis, and put new ones in if necessary.

Is there any reason why you couldn't put in your own switch? Not that I know of. Engineers — how about a $5 DIY kit?

*[Reproduced from the **Oracle of ZEUS**, the newsletter of the independent Zorba Equipment Users' Society.]*

* * * * * * *

OSBORNE 1 & NEC PRINTER

The NEC 360 Printer: Fine Letter Quality

by Steve Cunningham

Equipment

Osborne-1
NEC model 360 Printer (also called ELF 360)

This Christmas, my wife and I decided to upgrade with the purchase of a new printer. As a free-lance writer, she was sure that she needed? wanted? true letter quality despite the fairly good looks of the Epson emphasized text.

So, after some shopping we selected the NEC model 360, a thimble printer rated at 19 cps. The NEC quality is superb, it is quiet, precise and an auto-sheet feeder is standard equipment. A tractor is available as well. (NEC model 4409) List price is $545 for the printer and $99 for the tractor. See the mags for discount prices. The 360 is the universal model, and there is a model 350 which works only with the IBM-PC.

I was a little apprehensive about hook-up and protocol; but no sweat, and herewith is a quick primer.

Parallel

Easy, just remove connector from rear of Epson and plug in. Turn power on, and that's that.

Serial

The printer comes with both interfaces, and I thought I would go for a dual printer hook-up to the Ozzy. After some fiddling, here is a smooth working setup.

Using SETUP configure 1200 baud and the DIABLO (XON/XOFF) choice for the printer option. Write to your disk, cold boot the computer, and approach the DIP switches on the printer. Note easy access on rear, no disassembly!

The NEC manual clearly explains the switch settings but makes no mention of how to choose a protocol; however the Diablo command set seems to agree with the XON/XOFF while the NEC set doesn't perform well. Here are my settings to make it talk to an Osborne 1:

```
1 2 3 4 5 6 7 8

1 0 1 0 0 0 1 0        (1 is up 0 is down)

switch 1,2 set 1200 baud           note: up,up is parallel
       3  Diablo command set
       4  6 lines per inch
       5  CR = CR                  CR = CR + LF is other
                                   choice
       6  RTS polarity negative
       7  Data 8 bits              down = 7 bits
       8  USA character set
```

With these settings the printer was equal in speed performance to the parallel hook up, and fully utilized the 3K buffer which is also standard equipment. In the NEC mode using ACK/ETK protocol everything worked but the computer would only dump to the printer one line at a time which was considerably slower. I did not measure the true speed of the printer; but the tractor moves very fast in comparison to the Epson MX-100.

The final adjustment was to patch WordStar for a true underline using the ^Y (control Y) trick suggested in ***FOGHORN*** and ***Portable Companion***. The normal WordStar underline patch only allows a single character and the NEC requires more. Using INSTALL:

```
RIBBON: (06DD) 02 h        2 bytes
         06DE  1B h        ESC
         06DF  45 h        E

RIBOFF: (06E2) 02 h        2 bytes
         06E3  1B h        ESC
         06E4  52 h        R
```

With all of the above we now have a letter quality printer and the faster dot matrix hooked up to the O-1. The switch over is accomplished via a bootup with proper setup.

The NEC 360 Printer offers a lot of features at a reasonable price and although slow, the letter quality is A-1! The 3K buffer and the dual interface make this a great printer to match the flexibility of the Osborne.

* * *

Want Back Issues?

Please refer to **FOG MEMBER MERCHANDISE** in this issue for information on obtaining back issue copies of ***FOGHORN***. We maintain an inventory of back issues because the information contained in them can save you hours of aggravation!

* * *

OSBORNE 1

A Simple Repair Job to Restore the O-1's Monitor

by W. Terry Whalin

One time when working, my Osborne died. I was upset as I use it daily for my work as well as writing letters. While I was typing in WordStar, my screen went partially blank. It was as though some unseen hand was in front of my screen. Parts of it were totally black yet others had characters with full intensity, others had partial letters and the rest was black. Strange.

I checked all my connections to the outlets and tried everything I knew outside of the machine. Then I got worried. I have used this particular machine a lot in the last two years.

I called Ray Gordon, a coworker and computer wiz in Denver (I'm in Costa Mesa, CA) and asked his advice.

He gave a few suggestions and the phone number for Mission Peak in Hayward, CA.

Mission Peak referred me to some local repair people.

Computerland told me it would cost about $200 and would take about three weeks. Forget it.

I called another repairman, Dick Guise with Computer Maintenance and Interface in Irvine, CA, (714) 786-8215.

He said it would cost around $150 tops and be finished in three days. I arranged to take it over to him that evening.

Dick works out of his garage and has been fixing Osbornes for years. When I arrived, he plugged in my machine to check it out. The front of the machine has a plug for an external monitor. It takes a special monitor adaptor.

Since I haven't used an external monitor on this particular machine, I have never taken that plug off the machine. Dick took out the plug, replacing it with the adaptor and the monitor worked fine. The machine checked out OK.

Also my little screen on the Osborne began working. He said possibly it was the plug. Switching plugs, it still was working. Then he said: "Let's put your plug back into the machine."

He did and it still worked. The problem was fixed. Hooray!!

Since there was nothing to repair, I took my machine back home and he didn't charge me anything. Dick speculated some sort of electrical contact with that plug was messing up the little Ozzie monitor. This resulted from contact over the years.

If you ever have this experience, it's one more thing to check before outlaying money for repairs.

* * *

CORRECTION

Re: "Timing" the Screen

The program in Al Ujcic's letter on page 13 of the February ***FOGHORN*** was not quite right. Here is the correct program:

```
100 ' THIS DEMONSTRATION PROGRAM INTRODUCES THREE PAUSES
110 '
115 FOR J=1 TO 3                  '''3'' = NUMBER OF PAUSES
120 FOR I=1 TO 5000
140 IF I=850 THEN 190             'INCREASE VALUE OF ''I'' TO
150 '                              EXTEND PAUSE AND DECREASE
160 '                              (LESS THAN 850) TO SHORTEN
170 '                              PAUSE NOW SET FOR 8 SECONDS
180 NEXT I
190 PRINT''                       PAUSE''
200 PRINT
210 NEXT J
220 PRINT''                       DONE''
230 END
```

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FOR SALE

Wanted: Osborne 1's and Executives

Wanted Osborne 1's and Executives for student.

"No good if they don't work . . .

Cost more to fix than they are worth . . ."

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Osborne Executive with 5 software packages, instruction manuals and two new extra drives. $950 or best offer. Call Barbara at (209) 474-8888 for more information.

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FOG MEMBER ANNOUNCEMENTS

Please Help

My Osborne was stolen. Dirt cheap Osborne wanted, (this is for any and all Osborne 1's, Execs, 3's, 4's). Any condition, please write:

L. C. Yarnall
USMCAM-Calibration
APO NY 09086

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PRODUCT ANNOUNCEMENTS

New Outline Processor for CP/M Computers

Kamasoft, Inc., 2525 SW 224th Ave., P.O. Box 5549, Aloha, OR 97007, (503) 649-3765, has introduced OUT-THINK, a new, low cost ($49.95 special introductory price) alternative for outline processing on CP/M computers. OUT-THINK provides features that are similar to the many successful outline processors on the IBM-PC.

OUT-THINK lets you:

* Classify text into a familiar outline structure and then alter and access the text based on that structure;
* Hide details and focus on how your main ideas fit together as you create and develop written material.

Levels of outline can be collapsed off the screen, hiding them from view, then expanded back into view for editing. There is also a full screen text editor for inserting and editing text in the outline.

There are copy and move operations; a built-in file manager, information retrieval by keyword, date and time stamping, and password security on outline files. Users can directly read and write text files compatible with most word processors and the outline can be printed with over 20 different formatting parameters, including headers and footers, page numbers, section numbers and an automatic table of contents.

OUT-THINK evolved from Kamasoft's earlier outline processor, KAMAS and existing KAMAS outline files are compatible with OUT-THINK. It will run on practically any CP/M (ver. 2.2 or above) computer, including systems with the 8080, 8085 and Z80 processors, as well as many CP/M emulators running on the IBM-PC. It requires at least 48K of free RAM space and an 80 column by 24 line screen. If you own KAMAS, you can get OUT-THINK for $25 by sending in your KAMAS disk.

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poly-COM Software Enhancements

Polygon Associates' poly-COM/240 terminal emulation and file transfer communication software package has been enhanced and now offers "hotkey" control for switching between a DOS screen and VAX terminal session without losing the communication link; instant toggle between text and graphics modes; host control commands for unattended or distributed applications; and a screen saver function which blanks the PC screen after a defined time period to reduce video screen wear.

These enhancements have been integrated into new shipments of the poly-COM/240 product and are available to current poly-COM/240 customers free of charge. Contact Polygon Sales, 1024 Executive Parkway, St Louis, MO 63141, (314) 576-7709.

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TWIST and SHOUT

Spectre Technologies, 1341 Ocean Ave, Suite 366, Santa Monica, CA 90401, (213) 399-7938, has released TWIST and SHOUT; two programs in a single disk. TWIST turns a printer's output sideways, allowing spreadsheets of any width to be printed on a continuous sheet of paper and SHOUT allows virtually any dot matrix printer to print out copy in eight inch high letters in one of three fonts.

The price is $34.95 for either MS-DOS and CP/M systems. The CP/M version is available for Osborne, Kaypro and Morrow formats, and for an extra $5, Spectre will make up a disk in any other CP/M format. The MS-DOS version is in standard MS-DOS format.

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If there is incompatibility, a LOG-FILE will be provided, that will indicate for each document the location of where and which code is incompatible and what was substituted for it.

Company Compendia is offering a free sample conversion if followed by an order. Contact them at 400 E Randolph #2108, Chicago, IL, (312) 938-0937 or (312) 953-9424.

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FOG MEMBER MERCHANDISE

A decision on whether or not to discontinue the **FOG** T-shirts will depend on members' interest. These T-shirts are soft blue in color with the **FOG** logo in black and are Hanes 100% cotton. They are cut large to allow for shrinkage.

Sizes currently available are small (34-36) and medium (38-40). We are out of stock on the large and X-large sizes. The price is $7.50.

The **FOG** Disk Library Directory ($5) lists the disks which have been released by the librarians. The directory has a description of the files on each disk. Updates to this directory will no longer be available. Until the revamping of the library is completed, we will not print a new directory. In the interim, a complete list of descriptions has been compiled on two disks. These disks are updated as new disks are released.

Each November issue (No. 2) of the ***FOGHORN*** contains an index to the previous volume. We maintain a full inventory of back issues, either as individual issues or as part of a "Best of" issue. See chart below for prices.

In September of each year we release a compilation of all issues of a previous volume. The **Best of Volume I** ($5) was released in 1984. This 54 page issue carries all the articles from Volume one and has no no advertising. The 160 page **Best of Volume II** ($10 including Third Class postage) carries all the articles from October, 1982 through September, 1983.

The **FOG** Starter Disk is available in two formats. The double density version is on a single disk ($4); the single density version is on two disks ($4 per disk). The programs on these disks will change as better versions become available but will always be the programs needed to use other programs from the **FOG** Disk Library and **FOG** RCP/M systems. Please be sure to specify the format you require. In the event that no format is specified, we will ship Osborne double density.

There is currently about 300 disks in the library. If you cannot obtain a copy through your local group or RCP/M, you may order directly from the **FOG** office. Your order **must** specify which **disk** you want by including the **FOG** Disk Library number.

We cannot fill special requests for specific programs from several disks. The price of the disks is $4 per disk for less than ten disks and $3 for 10 or more. Unless you include a note as to which format you want, we will ship either single or double density Osborne format. (In this case, format selection will be based on the total size of files contained in the release.)

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